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(See Indian Journal of Medical Research, October, 1926, *page* 291*)*

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AURELIUS CORNELIUS CELSUS, WHO WROTE THE FIRST SKETCH OF THE HISTORICAL EVOLUTION OF MEDICINE WHICH HAS COME DOWN TO US.—Without Celsus some of the most valuable medical works of the Ancients might have been lost. We are indebted to him for our knowledge of the Alexandrian School of Medicine, especially for an account of the pioneer work in surgery there achieved, and we should know little of the school of Asclepiades but for him. His book, *De Re Medicina*, was one of the first medical works to be printed at the Revival of Learning; it had a conspicuous effect upon medical practice down to the middle of the nineteenth century. It consists of eight books, the first four of which give an account of disease treated by diet and hygiene, while the last four deal with treatment by drugs and surgery. His account of heart disease was the earliest complete description and became the standard treatise on the subject. Celsus was probably not a member of the medical profession, though it is likely he had studied medicine in his general education and was physician to his own household. His historical sense, his power and independence of judgment, added to his personal experience, make his work one of the chief masterpieces of ancient medicine. As typical of his own attitude, the following comment may be cited: "It must be borne in mind that medicine is not an exact science, and apparently fully-established premises may, under special circumstances, prove false; speculation should occupy a prominent position in thought but not in actual practice." Down to his time, medical works had been written in Greek; Celsus wrote in Latin of such excellence that his works have been studied for th ir style alone. "I would bear something," proclaimed Dr. Johnson, "rather than that Celsus should be detected in an error." Celsus was the pioneer of scientific Latin.

Date: c. 25 B.C.—A.D. (?) 8

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A British Medical Association Lecture

ON

SOME POINTS IN THE SURGERY OF GASTRIC AND DUODENAL ULCERS.

DELIVERED BEFORE THE LEICESTER AND RUTLAND DIVISION ON JANUARY 21ST, 1927,

BY

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Of all the advances which have been made in surgery in the last twenty years none are more remarkable than those in the diagnosis and treatment of chronic ulcers of the stomach and duodenum. Not only has surgery provided a complete cure for one of the most crippling conditions which can affect a man in the full vigour of life, but surgeons have actually supplied physicians with a precise system of diagnosis in a field which was formerly most obscure. Routine explorations of the stomach and constant contact with the physical facts of its diseases have enabled surgeons to reveal its living pathology, and to build up a clinical picture remarkable for its precision.

Before discussing the purely clinical aspects of the subject it will be well to note its extent, and to form a clear idea of the pathological entity we are discussing. The extent can be fairly gauged by the admissions to a general hospital. In the three years 1923-25 close upon 30,000 patients were admitted to the surgical wards of the London Hospital, and of these no fewer than 1,275 were admitted for gastric and duodenal ulcers. It would appear, therefore, that over 4 per cent. of the cases admitted to the surgical beds of a large general hospital are suffering from this condition. Remembering that the hospital admissions form only a small fraction of the actual cases, it will be seen that the disease is one of considerable frequency, and must result in a large amount of ill health and incapacity. Moreover, the average individual who consults a surgeon for chronic gastric ulcer probably only does so after years of intermittent pain which has made life almost intolerable. He is in the most active period of life, and many patients undoubtedly owe their trouble to the strenuous lives they have led, and the irregular meals which these have involved. Perhaps this is an explanation of the greater incidence in men. Of the 1,275 London Hospital cases above referred to 660 were gastric ulcers with a male incidence of 70 per cent., and 615 were duodenal ulcers with a male incidence of no less than 86 per cent.—figures which agree closely with those found elsewhere by both English and American surgeons.

PATHOLOGY.

There is no more concrete pathological entity in surgery than a chronic gastric ulcer, and its discovery at operation can never be a matter of doubt. These ulcers occur most frequently upon the lesser curvature near the pylorus, and on the posterior wall. At the cardiac end of the stomach they are rare, and on the greater curvature they are practically never seen. Their actual cause is unknown, but they probably commence as small acute lesions which gradually develop into chronic ulcers. Indeed, there are some grounds for supposing that the extension of a chronic ulcer is due to the formation of acute ulcers on its margin, and this would account for the very marked periodicity which is so characteristic of the symptoms of the disease. In the early stages the mucous membrane alone is involved, but the exposed submucous and muscular coats are rapidly attacked by the gastric juices and a funnel-shaped ulcer is produced which gradually penetrates the entire wall. Where the ulcer occurs on the lesser curvature the inflammatory process extends into the lesser omentum, which becomes thickened and distorted, a huge sheaf of lymphatics surrounding the coronary vessels. If the ulcer is on the posterior wall it may become adherent to the pancreas or the liver, and finally burrow deeply into its substance. A posterior ulcer will often involve the transverse mesocolon, and this is a matter of extreme practical importance since it exposes the middle colic artery to considerable risk of injury in the course of an operation.

It is characteristic of these ulcers that the tissues around should become densely infiltrated, and as contraction is thus interfered with the natural healing of the ulcer which might otherwise occur is prevented. Occasionally, however, healing does occur, and it may then be accompanied by gross constriction at the site of the ulcer, as is most strikingly seen in the hour-glass stomach produced by the contraction of a saddle ulcer. In a similar manner the healing of a pyloric ulcer may be accompanied by such contraction as to produce severe organic obstruction of the pylorus.

The pathology of duodenal ulcers is very similar to that of gastric ulcers, but they never reach such large dimensions and are never accompanied by the same degree of induration. They are most common on the posterior surface, and at the junction of the first and second parts of the duodenum. It is quite common to find two ulcers opposing one another, one on the anterior and one on the posterior wall; the latter, from its relationship to the gastro-duodenal artery, is liable to produce severe haemorrhage, whilst the former may readily perforate. When an ulcer on the anterior wall is healed its site may often be recognized as a thin, white, radiating scar, whilst in the active state the peritoneal surface becomes stippled with red points in a characteristic manner if it is gently rubbed with a swab.

The relation of gastric ulcer to cancer is still a matter of acute controversy, but it would seem that although carcinoma may develop on the basis of a chronic ulcer this is by no means a common event. The fact that in every chronic ulcer considerable displacements of the epithelium are liable to occur probably led to the idea that these displacements were malignant downgrowths. From the practical point of view, however, it is sometimes difficult to determine clinically whether an ulcer is or is not malignant, so that where there is any doubt its resection in a suitable case would always seem to be a wise precaution.

The actual causation of chronic gastric ulcers is quite unknown. In animals they are only produced with difficulty, and the most successful method has been that of feeding with food grossly contaminated with *B. coli*. On the one hand, it seems certain that infection plays some part in their production, but on the other it is obvious that, once the mucous membrane has been destroyed, the gastric juice can exert a very destructive action upon the exposed tissues. The fibrosis which naturally results prevents that contraction which is an essential process in the healing of any ulcer, and the continued action of the gastric juice is a constant irritant favouring its extension. The fact that gastric ulcers are so commonly associated with hyperchlorhydria, and that in duodenal ulcers this is almost invariable, suggests that the acidity of the gastric juice has an important bearing on the etiology of both conditions.

SYMPTOMS.

A chronic gastric ulcer usually presents a group of symptoms so characteristic that the diagnosis can be made upon the history alone. It occurs most often in men, and usually between the ages of 40 and 50, although no period of life is entirely free. The most characteristic feature of the symptoms is their periodicity, for they tend to come in attacks lasting, perhaps, for a few weeks, with longer intervals of complete freedom. The cause of this periodicity is unknown, for in general the ulcer does not heal between the attacks. It has been suggested that during attacks an extension of the ulcer is occurring, and in certain cases small acute ulcers have been noted on the margins of the chronic ulcer itself. As time goes on, however, and the ulcer becomes adherent to the surrounding structures, the interval of freedom becomes shorter, until finally the symptoms may become continuous.

The primary symptom is pain in the epigastrium, coming on at a definite interval after a meal. The interval may be anything from ten to ninety minutes, but it is usually constant for a given patient. The pain may be very severe, and it has the characteristics of a colic varying in intensity from moment to moment. It can be entirely relieved by emptying the stomach or by neutralizing its contents with alkali. The pain appears to be due either

to spasm or tension of the muscle wall of the stomach, the spasm of the muscle wall being in some way due to the presence of the ulcer. The acidity of the gastric contents would seem to play an important part in its production, since it is often most severe when the acidity is at its height and is immediately relieved by the ingestion of alkalis or other substances which neutralize the acid.

The pain is, however, seen in its most typical form in cases of duodenal ulcer, and here its mechanism is more easily understood. Here it comes on an hour and a half after food, when the acidity of the gastric contents is at its height, and it is evidently due to a violent spasm of the pylorus, which endeavours to protect the ulcerated surface of the duodenum from contact with the acid chyme. The relationship between the acidity and the pain is here clearly marked, for although small portions of the liquid stomach contents are being passed into the duodenum as a rule from an early stage, their degree of acidity is insufficient to excite the characteristic spasm.

As time goes on pain of an entirely different character may appear—a fixed burning pain in the back. This pain always indicates that the ulcer has penetrated the posterior wall of the stomach, and has eaten its way into the structures on the posterior abdominal wall, of which the pancreas is the one most often affected. It is apparently due to the direct irritation of nerve endings, and although it varies with the acidity it bears no relation to muscular spasm.

Vomiting is sometimes a prominent feature, and it may be welcomed by the patient for the sake of the relief which it brings; many of these patients, indeed, induce vomiting as the surest way of abolishing their pain. The vomiting may be intensely acid, and this is more likely to be the case if it occurs at a late period of digestion. It never has the persistent character by which it is marked in cases of carcinoma.

Haematemesis is seen in cases of gastric ulcer in two forms. In the one the bleeding occurs from small vessels of the mucosa, and although it may be severe it will always respond to treatment and is never fatal. The other form occurs at a late stage and is due to the erosion of a large artery by the ulcer. Its treatment forms as difficult a problem as any in surgery, and it is often fatal.

The story of a typical case of chronic gastric ulcer will thus be as follows. For many months the patient has suffered from attacks, which lasted for a few weeks, in which he has had epigastric pain, coming on an hour or so after meals, and relieved by vomiting. As time has gone by the attacks have become more severe and the interval of freedom shorter, till for some months he has not known what it was to be free from pain after meals. A constant boring pain in his back may have added to his troubles. He has been losing weight, and on one or two occasions he may have vomited blood.

The symptoms of a duodenal ulcer strongly resemble those of a gastric ulcer, but they present certain important differences. The pain appears at a later period—from one and a half to two hours after a meal. It often wakens the patient in the early hours of the morning when his stomach is actually empty of food, and it is often relieved by taking more food. This hunger pain, as it has been called, is the most characteristic feature of a duodenal ulcer. The periodicity of the attacks is very marked, and although it is not always the case the patient often presents a thin, drawn appearance, which is very characteristic. If haemorrhage occurs it is likely to be very severe, but as a rule blood is passed by the bowel and is not vomited. At the moment when the bleeding occurs the patient may become very pale and faint, but it may be only two days later that he passes the black tarry stool which indicates the presence of altered blood.

In cases both of gastric and duodenal ulceration we are unlikely to gain much information from a direct examination of the patient. Where the history is prolonged and the symptoms have been severe there may be marked loss of weight; where haemorrhage has occurred there may be definite anaemia, and sometimes the patient presents a marked pallor from a continuous loss of small quantities of blood, although no obvious haemorrhage has occurred. Examination of the abdomen may show a definite point of tenderness in the epigastrium, possibly accompanied by slight rigidity, and where the latter chiefly affects the right rectus it is suggestive of pyloric or duodenal ulceration.

Examination of the stomach contents by means of a test meal will enable us to discover the degree of acidity. There are two standard methods, those of Ewald and Rehfus. In the former the patient is given, on an empty stomach, a slice of dry toast and a pint of weak tea, the contents of the stomach being withdrawn at the end of an hour. In the second, or fractional method, he first swallows a small tube, and then takes a basin of thin gruel, samples being withdrawn by means of the tube every fifteen minutes. The advantage of the second method is that the gradual rise of the acidity in the stomach contents can be noted, but it is doubtful whether the information obtained is of more practical value than in the simpler method of Ewald. Although the information obtained is not absolutely conclusive, it is certain that a high acidity of the gastric contents is almost unknown in carcinoma of the stomach, and from this point of view it may be of diagnostic value in a doubtful case of suspected ulceration.

Radiographic examination has in recent years become of increasing value, and in expert hands is capable of giving results of great reliability. The patient takes a meal containing three ounces of barium sulphate suspended in some thick medium so as to form a viscous emulsion. The shadow of the stomach contents is observed on a screen, and the contents are displaced by the hands of the radiographer so as to see if any of the opaque material remains behind in the crater of an ulcer. Should an ulcer be present some of the barium emulsion will be caught in its crater, and the persistence of this little fleck of barium as the stomach is moved about is the characteristic feature (see Fig. I). Opposite this small niche there is often an indentation due to spasm of the stomach wall at this point, and the combination of the niche with the indentation is conclusive evidence of the presence of an ulcer. Rapid emptying of the stomach, distortion of its wall, and distortion of the duodenal cap, are all suggestive of ulceration of the stomach or of the duodenum, but their interpretation must be left to the expert.

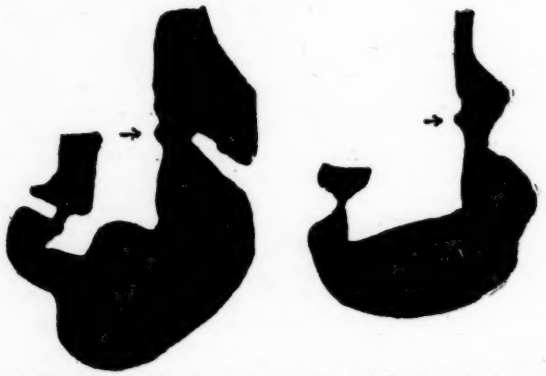

FIG. I.—Small ulcer of lesser curve; interval of twenty minutes. Note persistence of niche and opposing indentation from spasm of muscle.

COMPLICATIONS.

The clinical picture of uncomplicated gastric ulceration is thus exceedingly well defined, but it is liable to considerable modification if certain complications occur. Of these the most important are:

1. Involvement of the surrounding organs, especially the liver and pancreas.
2. Pyloric obstruction.
3. Hour-glass contraction.
4. Carcinoma.

All these complications are accompanied by gross interference with the mechanism of the stomach, and it is a striking fact that they are all associated with loss of periodicity in the symptoms.

Take the first of these cases, where the ulcer penetrates into the liver or pancreas, or, more rarely, into the anterior abdominal wall. Not only will the patient have no periods of relief, but the pain itself, though rendered worse by food, will never disappear. It acquires a burning,

penetrative character, and in those cases where the pancreas is involved it characteristically radiates to the left shoulder. It is evident that such ulcers may open up large arteries, such as the splenic, or pancreatico-duodenal, and lead to immediately fatal haemorrhage.

Where the contraction of an ulcer has led to pyloric stenosis the periodicity of the symptoms will again disappear. The pain will become more constant, but will be due rather to the chronic gastritis which is present than to the ulceration, and it will therefore lose its acute

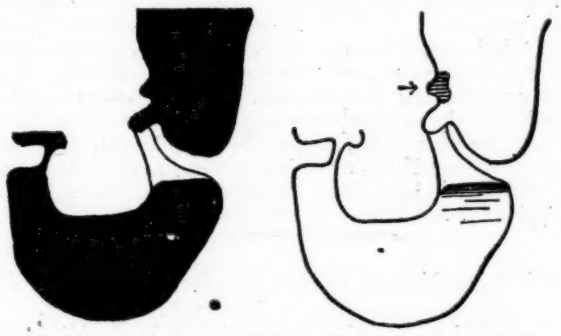

FIG. II.—Hour-glass stomach. Note small active ulcer, and level of fluid in distal sac.

character. The most striking feature, however, of pyloric stenosis is the vomiting of large amounts of food, possibly the contents of several meals. Often the stomach is enormously dilated, and active fermentation may add to the distension and discomfort of the patient.

Hour-glass contraction is almost limited to women, its production being probably conditioned by some degree of visceroptosis. It occurs most commonly in women of middle age, with a history, extending over ten years or more, of chronic dyspepsia. The pain is always severe, and vomiting may suggest obstruction. As there is, however, a marked degree of chronic gastritis the appetite will be less, and there is always gross loss of weight. The fragility of these women is often extreme. They have suffered years of misery as chronic dyspeptics, and one would imagine that their gastric mucosa could never recover its vitality. There are, however, no cases which may astonish the surgeon, and perhaps still more his medical colleague, with more brilliant recoveries. (See Figs. II and III.)

The relation of carcinoma to chronic ulcers is still a matter of dispute, but there can be little doubt that it is an uncommon occurrence. It should be suspected where the pain becomes more continuous, although usually less severe, where vomiting results in the evacuation of foul material with little relief, and where rapid loss of weight occurs. Gross loss of appetite and a positive distaste for food are common, but again the most striking feature is the loss of periodicity in the symptoms.

TREATMENT.

It was for a long time held that chronic ulcers of the stomach and duodenum would yield to medical treatment, and that complete healing of the ulcer would in time occur. Surgical explorations have, however, shown that this view can no longer be maintained. It is true that if the patient is placed in bed on a restricted diet all his symptoms will disappear, but if an abdominal exploration is undertaken it will often be found that the ulcer itself is still present, apparently entirely unaffected by the treatment which has been so successful in abolishing symptoms.

It would appear, indeed, that a chronic ulcer gives rise of itself to no symptoms at all, and it has been suggested that the periodic attacks which are so characteristic a feature of the disease are due to the formation of acute ulcers on its margin, probably as a septic process. However that may be, it is certain that a fully formed chronic ulcer can only be cured by surgical means, and it is on the face of it unreasonable to expect that a deeply excavated ulcer, fixed in indurated tissues, and bathed by active gastric juice, should be affected by any alterations in diet.

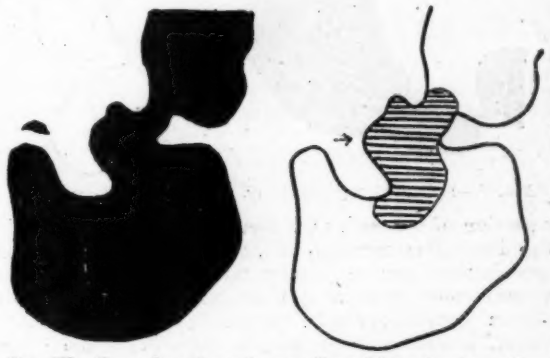

FIG. III.—Hour-glass stomach, complicated by extensive active ulceration involving pancreas and liver.

Of all surgical procedures for the treatment of these ulcers, gastro-enterostomy stands out as the first, and indeed there are few operations in any field of surgery which have met with such success. Introduced in Billroth's clinic forty-five years ago, and only modified in detail by succeeding surgeons, it can still claim absolute success in an overwhelming majority of properly selected cases.

The mechanism by which it acts is still a matter of doubt, but the most important change which it produces is neutralization of the gastric contents by the bile and pancreatic secretions which are thus brought into the stomach. When this neutralization is obtained gastro-enterostomy is completely successful in dealing with ulcers of the duodenum and of the pylorus, whilst it even succeeds in those ulcers of the lesser curve which lie in the neighbourhood of the pyloric antrum. It succeeds, in fact, wherever an opening can be made to the left of the ulcer, and only fails in those ulcers of the lesser curve which lie so far to the left that this condition cannot be complied with.

In a small percentage of cases, however, for causes which are quite obscure, neutralization is never completely effected, and the patient is then exposed to the possibility of a jejunal ulcer starting from the line of anastomosis. Moreover, gastro-enterostomy fails to give relief when the ulcer is so far towards the cardiac end of the lesser curve that it is impossible to place the opening to the left of it, whilst its success is uncertain in those cases where the ulcer has involved the liver or pancreas, and its application is often difficult in those cases where the contraction of a chronic ulcer has given rise to the gross deformity of hour-glass contraction.

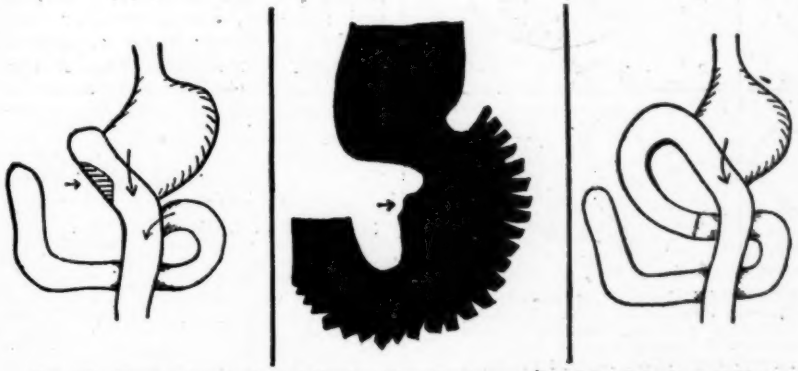

FIG. IV.—Huge jejunal ulcer, following Y gastrectomy. Cured by Polya's operation.

In the last two conditions, where the surrounding organs are involved or the stomach itself is grossly deformed, there is no question that the most satisfactory solution is partial gastrectomy. The method of Polya, as so largely developed by Moynihan and Sherren, has met with a success in these complex cases which rivals that of gastro-enterostomy for the simpler conditions. A Y anastomosis should not be performed, for the largest jejunal ulcer we have ever seen occurred after this operation. (See Fig. IV.)

The small ulcers occurring high up on the lesser curve still, however, present an unsettled problem. The patient can be cured, it is true, by partial gastrectomy, but the

FIG. V.—Schoumaker gastrectomy. Result after six months.

large section of stomach sacrificed seems scarcely justifiable. In the ingenious method of Schoumaker the portion of stomach excised can be greatly reduced, and the operation is so performed that a stomach is left which is almost normal in appearance and function. (See Fig. V.) The operation, however, is technically difficult, and an equally good result is more easily obtained if the stump of the

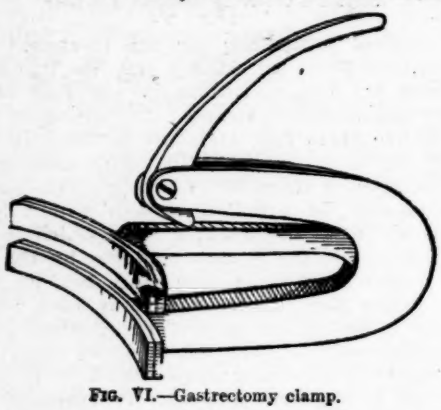

FIG. VI.—Gastrectomy clamp.

stomach is anastomosed to the jejunum, as in Polya's operation.

To facilitate this procedure I have devised a clamp based on that of Schoumaker, but of simpler construction. (Fig. VI.) It consists of two members joined to one another, which can be forced together with great power by a toggle lever. On the front of each member is a

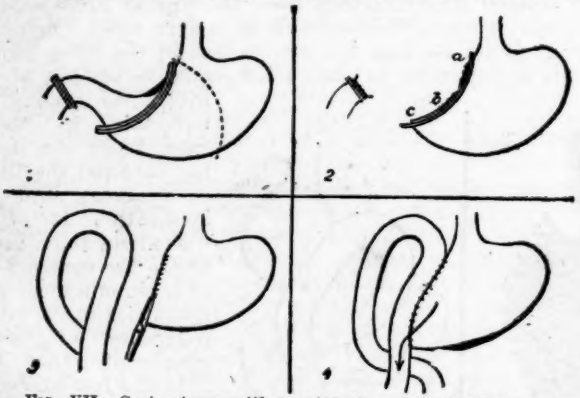

FIG. VII.—Gastrectomy with special clamp. 1, Application of clamp. 2, Stomach excised, front members of clamps removed, crushed edges sutured. 3, Clamp removed, Lembert sutures inserted, forceps applied to stoma. 4, Operation completed. New lesser curve protected by jejunal loop, which is itself protected from angulation.

detachable face. After crushing the stomach, amputating, and removing these faces, a fringe of crushed tissue projects which can be sutured with great facility, and in almost perfect asepsis. The clamp is used as follows.

After dividing the duodenum and freeing the stomach the clamp is so applied as to allow of the removal of the ulcer with a minimum of stomach. The rejected tissue is now cut away, and the fringe of tissue in the clamp is touched with pure carbolic. The front plates of the clamp are removed, the upper two-thirds of the crushed tissue edge is sutured, and the lower third is caught in forceps. The clamp is removed and the suture line is invaginated. A loop of the jejunum is now brought up to the stomach and attached all along the suture line, whilst an anastomotic opening is formed in the usual way between the jejunum and the portion of the stomach stump held in the forceps. (See Fig. VII.)

The operation has the advantages that it is very tidy and clean, that very little stomach need be removed, that the alignment of the jejunum along the suture line prevents this from leakage, and protects the jejunum from kinking, and that the outlet from the stomach is reduced to dimensions approaching the normal. On the other hand, the dotted line shows how the same method can be applied to the most extensive gastrectomy for carcinoma. The operation is followed by a convalescence remarkable for its smoothness, and so far the after-results have been unexceptionable.

HEREDITARY FAMILIAL CONGENITAL HAEMORRHAGIC NEPHRITIS.

BY

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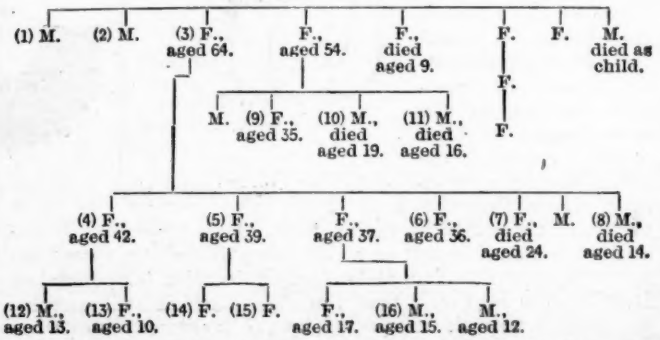
THE question of heredity as an etiological factor in nephritis has been studied and reported upon from time to time. Fortunately the condition is rare, and the literature shows only half a dozen families affected in this way. As far back as 1875 Dickinson[1] published a family tree showing eleven cases of albuminuria in a total of sixteen persons in three generations. Attlee,[2] Guthrie,[3] and later Hurst,[4] Pel,[5] and Kidd,[6] and Eason, Malcolm Smith, and Buchanan[7] have also described the disease and noted its familial and hereditary tendency.

The cases which have come to my notice belong to a later generation of the series studied by Leonard Guthrie and Hurst, and it is with this family I propose to deal. Guthrie designated the condition "idiopathic or congenital hereditary family haematuria," and used the word "haematuria" rather than nephritis. He gave as his reasons for this that it is "persistent for many years, but may vary in extent; liable to paroxysmal exacerbations with influenzal-like symptoms; not marked by oedema, ascites, or cardio-vascular disturbances; not due to uric acid or oxalates, and is not accompanied by urine of low specific gravity."

The part of the same family described by Hurst showed definite nephritis with low specific gravity of urine and the presence of albumin, some blood, and granular and hyaline casts; the blood pressure was increased, and towards the end anaemia, cardio-vascular changes, and oedema were marked features; these cases terminated in death from uraemia. Hurst thus named the condition "hereditary familial congenital haemorrhagic nephritis," and this terminology is accurate for most of the affected members of the later generations of the family.

Genealogical Tree (Hurst).



The genealogical tree is taken from Hurst's study of the family records, with the addition of the children of the third generation, born since his original communication appeared.

On January 4th, 1924, I was asked to see a boy belonging to the third generation of this family—No. 16 in Hurst's genealogical tree and the second child of the third daughter of No. 3. This boy's great-grandmother, not shown on the genealogical tree, lived to the age of 90 years and was extremely deaf. Her daughter (No. 3) had a severe attack of haematuria after the birth of her first child, and similar, but less severe, attacks after the births of her younger children and also after eating black currants and drinking claret. She is very deaf, but her general health is excellent. Her two elder brothers both suffered from haematuria and died in childhood. One sister is deaf and another slightly so, but they do not suffer from disease of the kidneys.

All her children, with the exception of one male child, developed haematuria. In three cases (Nos. 5, 6, and 7) the condition followed the consumption of black currants. In one case (No. 8) black currants did not affect the patient, but strawberries, asparagus, and catching cold or influenza brought on attacks. A female child (No. 7) was deaf, and died in her twenty-fifth year; a male (No. 8), who died at the age of 14, was also very deaf. Another female (No. 6) is not dead as stated in Hurst's genealogical tree. She is alive and quite well except for her attacks of haematuria, but is stone deaf. Case No. 4 is slightly deaf. Two nephews (Nos. 10 and 11), deceased, suffered from nephritis and deafness. Her third daughter, unnumbered, the mother of my patient, denies having had haematemesis as stated in Eason, Malcolm Smith, and Buchanan's article, but suffers from backache and attacks of blood and albumin in the urine. She has only had one "bad attack," when she passed "pure blood." Her eldest child, a daughter, is quite free from the disease, and her younger son has shown no definite signs. The second child, a boy (No. 16), has nephritis and some nerve deafness. His case is fully described below. Her eldest sister (No. 4) has two children; both of these (Nos. 12 and 13) are well grown and in good health, but suffer from the complaint. Their cases are also described below. The children (Nos. 14 and 15) of her second sister (No. 5) are not affected.

It will be seen from this that nearly all the children of three generations of one family suffer from haematuria or nephritis associated with deafness. The deafness, which has not been stressed in the literature on the subject, is one of the most distressing features of this extraordinary disease.

Mr. J. Gay French has kindly supplied me with the following information on the deafness of two of the cases belonging to the first generation of the family, as shown in Hurst's genealogical tree. In 1916 he examined both of these patients and found them to be suffering from nerve deafness; the hearing in one of them has become slightly worse since then.

This nerve deafness is apparently the type of defective hearing to which members of this family are subject. It occurs not only in the individuals who have nephritis or haematuria, but also in those who are otherwise perfectly healthy.

When I first saw Case No. 16, in 1924, he was 14 years of age, tall for his age, intelligent, and keen on sport of all kinds. The apex beat was well within the mid-clavicular line, the heart sounds were normal, and there were no bruits. The vessels were not thickened, systolic blood pressure 118 mm. Hg, diastolic 55 mm. Hg. The urine, specific gravity 1015, was acid with a fair amount of albumin and some blood. Microscopically numerous red blood corpuscles, a few granular casts, and a large number of uric acid crystals were seen. The culture of a catheter specimen of urine was negative. Urea concentration test (Maclean) 2.5 per cent. of urea. Blood count: red blood corpuscles 5,120,000, haemoglobin 80 per cent., colour index 0.88—a slight secondary anaemia. Leucocytes were diminished in number. Differential count: polymorphonuclears 27.5 per cent., small lymphocytes 59 per cent., large lymphocytes 9 per cent., hyalines 2.5 per cent., eosinophils 1.5 per cent., and transitionals 0.5 per cent. The patient also suffered from nerve deafness to a considerable degree in both ears. The treatment was to reduce the food proteins and to give sufficient potassium citrate to render the urine neutral in reaction and allay the possible kidney irritation, due to the presence of uric acid crystals.

In May, 1924, the general vascular and urinary conditions showed no appreciable change. The blood urea was 12 mg. per 100 c.cm., albumin 0.075 per cent. Because of the definite family history of attacks of haematuria occurring after eating black currants, strawberries, and asparagus, I tested his skin reaction to various protein groups with a view to desensitizing him, should he prove sensitive to any given protein. The results were comparatively disappointing. He showed a ++ reaction to fish, fowl, and leaf vegetables—cabbage, lettuce, etc.—but the elimination of these from his diet and treatment with medicinal peptone, 1 grain one hour before breakfast, daily for a month, failed to diminish the albumin and blood in his urine to any extent.

In July, 1924, he developed furuncles in the external meatus of each ear and on one cheek. They cleared up after a course of injections of an autogenous staphylococcal vaccine. The urine still contained albumin 0.05 per cent. and blood corpuscles microscopically. He played football throughout the following winter, and in April, 1925, showed considerable improvement—heart normal; systolic blood pressure 108 mm. Hg, diastolic 65 mm. Hg; blood urea 27 mg. per 100 c.cm.

In September, 1925, he had an attack of influenza, and this was followed by a large increase of blood and albumin in the urine. The coagulation time of his blood was found to be five minutes—showing a delay. Treatment with calcium lactate 15 grains twice a day for three months had little or no effect upon the coagulation time or upon the urinary condition. Although I was anxious not to interfere unduly with the general routine of his life at school, I refused to allow him to play football last winter, because of the possibility of an onset of uraemia following a chill.

On April 7th, 1926, I saw him again and tried the effect of intravenous injections of 1 grain of calcium chloride, followed by further injections on April 14th and 24th. After each of these the urine showed decided improvement, there being considerably less albumin and blood in it and no casts. The coagulation time of the blood was reduced to three and three-quarter minutes. Further attempts to find a cause for the condition have proved unavailing. The Wassermann reaction and the complement fixation test for tubercle are both negative. An examination of the pharynx and nose by Mr. Cecil Graham proved negative; the tonsils had been removed some years ago and there were no adenoids. On transillumination of the right antrum of Highmore, however, a dark shadow was found below the right eye and light was less appreciated by the patient in that eye than in the left. An exploratory operation, the washing out of the antrum with sterile water and the culture of this fluid, failed to yield an organism of any kind. An *x*-ray photograph taken a week after the operation shows the right antrum still very opaque; there is no apparent explanation of this.

A further effort to find some focus of infection resulted in the cultivation of a non-haemolytic streptococcus (*S. viridans*) from the stools.

Buchanan, in his investigation of the blood and urine of two of Eason's cases, found pure growths of non-haemolytic streptococci. These were biochemically identical with those obtained from the teeth, tonsils, and tonsillar regions of the patients. Buchanan states that "a feature of note in primary cultures was the delay and feeble nature of the growth, which only appeared between the third and sixth days of incubation." He also produces experimental evidence of the production of symptoms of acute nephritis in rabbits as the result of intravenous injections of non-haemolytic streptococci (*S. faecalis*) obtained from two cases of subacute nephritis. Albumin in considerable quantity appeared in the urine within the first week of inoculation. In some cases it increased daily in amount and persisted until the animals died, in others it gradually decreased and almost disappeared. Microscopically the urine of these animals showed hyaline, granular, epithelial, and blood casts and blood epithelial cells were very numerous. In some animals which succumbed shortly after inoculation an accumulation of fluid in the pericardial sac and abdominal cavity was a marked feature, and the kidneys presented the typical microscopical changes associated with acute diffuse nephritis.

In view of these observations I injected into the veins of two rabbits a large dose of a first subculture of the non-haemolytic streptococcus (*S. viridans*) obtained from the stools of my patient by Dr. Fleming of the Pathological Institute of St. Mary's Hospital. The results were negative; the rabbits showed no symptoms of any kind, the temperature remained normal, and an examination of the urine ten days and a fortnight after the injections showed no signs of albumin, blood, or casts. The animals were still perfectly fit a month later. Another culture made recently from the stools of this case showed an abnormal number of *S. faecalis* and a few colonies of haemolytic streptococci.

Towards the end of last summer two cousins of this patient were brought to me. They were over on holiday from California, where they had been advised to live because they are suffering from the family disease.

The boy (No. 12), according to the mother's statement, developed haematuria when he was 2 years old. On examination he was found to be well grown; his systolic blood pressure was 122 mm. Hg, and the diastolic 78 mm. Hg, with slight thickening of the arteries. The heart was not enlarged and there were no bruits. The urine contained 0.28 per cent. of albumin and a trace of blood. Microscopically it showed an occasional blood and epithelial cell, but

no casts. The blood urea was 26 mg. per 100 c.cm., and the urea concentration was 1.95 per cent. Cultures from faeces yielded colonies of *S. viridans* only: 1 c.cm. of a first subculture of the living organism was injected into the veins of a rabbit; the urine collected and tested three weeks later was normal. Microscopical examination of the kidneys showed nothing pathological.

The girl (No. 13) had a history of haematuria, commencing three weeks after birth. Her systolic blood pressure was 118 mm. Hg, diastolic 75 mm. Hg. The heart was not enlarged, there were no bruits, and the arteries were normal. There was only a trace of albumin in the urine, which was faintly positive to chemical tests for blood. Microscopically a few red corpuscles, some uric acid crystals, and one hyaline cast were seen. The blood urea was 17 mg. per 100 c.cm.; urea concentration test 2.1 per cent. Culture from faeces yielded numerous *S. viridans*, and a few colonies of a haemolytic streptococcus appeared on the plate; 1 c.cm. of a living subculture of the above was injected into the veins of a rabbit and the urine collected and examined three weeks later. It showed a faint trace of albumin on boiling, and microscopically a few red corpuscles, numerous pus cells, but no definite casts. Culture of a fresh specimen of the urine failed to produce any streptococcal colonies. The rabbit was then killed by chloroform, and the kidneys examined by Dr. Newcombe, who reported as follows: "Glomeruli rather swollen and some of them contain a small amount of albuminous exudate. No sign of leucocytic infiltration. Tubules show some early fatty degeneration."

The small dose of streptococci given, and the shortness of time intervening between the injections and the microscopical examinations, may account for the relatively slight changes found in the kidneys.

Other cases of nephritis occurring in a family may be of interest.

At the beginning of May, 1924, two brothers, Charles J., aged 17, and Harry J., aged 14, were admitted to the Medical Unit wards of St. Mary's Hospital suffering from general oedema, blood and albumin in the urine, and an increase of blood pressure. They had been delivering milk early one morning; both got wet through and cold, both developed symptoms of nephritis, and they were admitted on the same day. There was no evidence of any infection immediately preceding the onset in either case. They both had scarlet fever five years before admission, and the elder brother had had measles, diphtheria, and chicken-pox as well. There was no history of oedema or albuminuria following these attacks.

The mother states that her father, an uncle, and her grandmother died of cancer, while her grandfather, two uncles, and an aunt died of consumption. There was, however, no family history of kidney disease. The elder boy proved to be a case of acute nephritis. On admission his renal efficiency was impaired—blood urea 0.056 per cent.; urea concentration test 1.6 per cent. After treatment the blood urea fell to 0.041 per cent.; urea concentration test 2.75 per cent. of urea. He has been discharged, and has been in the best of health ever since.

The condition of the younger boy on admission was more severe. He had considerable oedema, with albumin, blood, and casts in the urine. The apex beat was in the mid-clavicular line, but there was no bruit. The systolic blood pressure was 160, diastolic 100. The fundi were normal. Blood urea 0.146 per cent., urea concentration 1.7 per cent. The picture was one of chronic parenchymatous nephritis with considerable interstitial changes, progressing towards small white kidney. He was discharged relieved some weeks later.

On readmission in October, 1924, his condition had deteriorated considerably. Oedema, drowsiness, headache, and nausea were marked features. The breath smelt urinous. The apex beat was 1½ inches to the left of the mid-clavicular line, extra-systoles were present, but no bruits. The urine was scanty, and contained 0.8 per cent. albumin, granular and hyaline casts, but no blood. Urea concentration 1.35 per cent., blood urea 0.240 per cent. In the end he developed pericarditis and died on February 16th, 1925. *Post mortem* small white kidney was found.

COMMENTS.

1. Hereditary familial or congenital nephritis is a definite entity, and the kidneys in these patients are more susceptible to damage by the toxin of an unknown organism than is the case in the normal person.

2. The organism probably belongs to the streptococcal group.

3. In the first case investigated (No. 16) the coagulation time of the blood was delayed; intravenous injections of 1 grain of calcium chloride reduced the coagulation time and caused a reduction in the amount of blood and albumin in the urine. Calcium lactate given by the mouth is useless, as it is not absorbed by the intestines.

4. Cultures of *Streptococcus viridans* found in the stools of this patient, and of his cousin (No. 12), failed to produce the disease when introduced into the veins of a rabbit. Cultures of the stools of another case (No. 13), which showed both *S. viridans* and haemolytic streptococci, caused changes in the urine and kidneys of a rabbit after intravenous injections.

5. Deafness is a marked feature in nearly all these cases.

6. The male members of a family tend to develop nephritis and deafness and do not as a rule survive. The females have deafness and haematuria and live to old age.

7. The last couple of cases are interesting evidence of the variations in the course of nephritis. The kidneys of two members of the same family were attacked, apparently by the same organism, at the same time, and under exactly the same conditions. The elder brother contracted acute nephritis, which cleared up completely, the younger developed parenchymatous nephritis, passing into small white kidney, and ending in death.

I am indebted to Professor Langmead of the Medical Unit, St. Mary's Hospital, for leave to publish the notes on the last two cases.

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THE SCHICK TEST:

ITS APPLICATION IN AN INSTITUTION FOR MENTAL DEFECTIVES.

BY

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THE intradermal reaction in guinea-pigs was first used by Romer in 1907 for carrying out virulence tests in diphtheria. His technique was supplemented in 1913 by Schick, who introduced a test known by his name. It is possible by means of this test to determine whether or not an individual is susceptible to an attack of diphtheria. I have carried it out by injecting into the substance of the skin 0.2 c.cm. of standardized diphtheria toxin into the left arm. The most favourable site is the flexor aspect. The best results are obtained by using an "Agla" all-glass syringe (Burroughs Wellcome) fitted with a No. 214 rustless needle. The needle is inserted intracutaneously for a distance of an eighth of an inch. If the injection has been accurately effected considerable force is necessary to move the plunger onwards. After the injection has been done a wheal about half an inch in diameter is visible which is caused by the pitting of the hair follicles. A corresponding dose of heated toxin is injected into the opposite forearm. A separate syringe is used for this control dose.

Four types of reaction may be observed, and in 90 per cent. of cases in healthy subjects the results may be read after twenty-four hours, though after thirty-six to forty-eight hours the reactions are clearer.

1. *Negative.*—After twenty-four hours both arms show no local reaction except a puncture where the needle was inserted. There may be slight transient redness due to trauma. This coloration fades in the course of twelve to twenty-four hours.

2. *Positive.*—At the end of twenty-four hours there is seen at the site of the injection a circumscribed area of redness which varies from a quarter of an inch to one inch in diameter. It attains its maximum intensity by the fourth day, and thereafter gradually fades, leaving a brownish pigmentation. Persons who show this reaction are susceptible to diphtheria if exposed to infection.

3. *Negative and Pseudo-reaction.*—There is a red flush with a dark centre; the characteristic is that the area of redness is equal or approximately equal on both forearms. The patient who shows this reaction is immune to diphtheria if exposed to infection. It is due to some unknown constituent in the toxin broth.

4. *Positive and Pseudo-reaction.*—In this case a pseudo-reaction is observed in addition to the positive reaction. A red flush appears on both arms. The flush, which is much larger on the test arm than on the control, lasts for a longer time. The reading of this arm is best seen on the fourth to sixth day. The reaction is rather rare.

The patient is immune if the reaction is negative or pseudo-negative, but is susceptible if the reaction is positive or pseudo-positive. It is advisable to examine the sites of the injection daily for five days, and it is very important that careful "readings" should be done, especially on the second and fourth days.

It is advisable to use the diluted toxin for the tests as soon as it is received from the laboratory, as otherwise it is liable to lose its potency, and should a dozen successive healthy adults give a negative result, provided the test has been carefully and properly applied, the conclusion should be that the toxin may not be absolutely reliable. The undiluted toxin is less expensive than the diluted; and it remains sterile and reliable for several weeks, provided reasonable care is taken in storing it.

Individuals who prove susceptible to diphtheria, as determined by the Schick test, may be rendered immune by the injection of toxin-antitoxin. The injection of diphtheria prophylactic causes immunity to develop a few weeks later, and this immunity may probably last during life. Diphtheria prophylactic consists of diphtheria toxin and diphtheria antitoxin prepared according to the standard adopted by the American Government. Babies up to 6 months old seem to be immune, and do not need immunization. The large majority of children between the ages of 6 months and 5 years give a positive reaction, and therefore it is possible to dispense with the Schick test between these ages. All these children may safely be injected with the toxin-antitoxin mixture without any preliminary testing. Between these ages it would seem advisable, as a routine measure, to immunize all children against diphtheria. It will be found that if children between the ages of 6 months and 5 years are tested the percentage of positive reactions will be about 60 to 70. Above the age of 5 years only those patients who exhibit a positive Schick reaction should receive the injections.

Active artificial antidiphtheria immunization is carried out by the injection of toxin-antitoxin mixture. It is usual to give three doses of 1 c.cm. subcutaneously at intervals of seven days. It may be considered preferable to begin with a smaller dose—for example, 0.2 c.cm.—and to follow it up with 0.4 c.cm., 0.8 c.cm., and 1.5 c.cm. at intervals of five to seven days. This is advisable in the case of those who give a positive and pseudo-reaction. The toxin-antitoxin mixture remains quite potent for several months if kept in a cool place.

The injections of toxin-antitoxin are attended by a certain amount of danger, and several unfortunate incidents have occurred. In an institution near Vienna forty children recently received prophylactic injections against diphtheria, and six died with symptoms of general diphtheria intoxication. Several of the others exhibited skin necroses of varying degrees. The fatalities were possibly due to a dissociation of the toxin-antitoxin mixture. As a result of several unfortunate occurrences an important modification has been described by Glennie in which the toxin is rendered non-toxic by the agency of formaldehyde. The resulting toxoid-antitoxin mixture acts as a very quick, reliable, and safe immunizing agent, and is generally free from unpleasant effects. Ramon has employed formalized toxin for conferring immunity on Schick-positive cases. He gives three injections, with an interval of three weeks between the first and second injections, and two weeks between the second and third injections. The doses employed are 0.5 c.cm., 1 c.cm., and 1.5 c.cm. He claims that by this method he is able to render 98 per cent. of his subjects immune in eight weeks. Certain observers have prepared a mixture of antitoxin and anatoxin. The resulting preparation has been called "ananti." It is a protein-free vaccine against diphtheria, and the time required to secure immunity would appear to be about the same as that taken by toxin-antitoxin. It does not seem advisable to attempt to confer immunity by toxin-antitoxin injections on patients who suffer from advanced heart and kidney affections, or in those recovering from acute infectious diseases.

Many adults after receiving the first dose of 1 c.cm. of toxin-antitoxin do not suffer from any local or general disturbance, except perhaps slight lassitude, and soreness of the arm at the site of the injection. In many cases it is advisable to give a commencing dose of 0.5 c.cm., and follow up with two doses of 1 c.cm. at seven-day intervals. Patients who suffer from asthma, migraine, and debility should receive a small initial dose of 0.05 c.cm., and then 0.5 c.cm., followed by two doses of 1 c.cm. The frequency of local and general reactions increases with age. Severe reactions are rare before the age of 8 years.

The Schick test and antidiphtheria immunization were resorted to at the Royal Eastern Counties Institution, Colchester, because repeated small outbreaks of diphtheria had occurred during the last few years; twenty cases in fifteen apparently separate outbreaks occurred during 1924, and seventeen patients were attacked in the early part of 1925.

The test was commenced in 1925, and was applied only to patients whose relations or friends gave consent. The total number of patients tested was 1,037. The results were as follows:

Age.	Number Tested.	Positive.	Percentage of Positive Reactions.
Under 5 years	7	3	42.8
5 to under 10 years ...	48	16	33.0
10 to under 15 years ...	157	42	26.7
Over 15 years	825	187	22.6
Total	1037	248	23.9

The number of patients tested below the age of 5 years is too small to be of any practical value. It has been noted that between the ages of 2 and 5 there is a distinct loss of immunity, which increases again in children of school age. The latter increase is possibly due to these children acquiring from their neighbours slight infections, not sufficient to cause disease, but nevertheless allowing them to acquire the necessary antitoxin to combat infection. Interesting observations have been made which show that children who prove to be susceptible to diphtheria on admission to hospitals may gradually develop resistance to the disease. The longer the residence of these patients in hospitals the more likely is this immunity to result. It would appear that in diphtheria, to which our susceptibility is not very high, a spontaneous process of immunization can eventually occur by the inhalation of small and subinfective doses of bacteria.

It will readily be understood that in certain cases it is rather difficult to apply the Schick test accurately to mental defectives. Great care must also be exercised during the administration of the toxin-antitoxin mixture.

The number of members of the staff tested was forty-seven, and eighteen of these gave a positive reaction. This percentage (38 per cent.) is high, but may to a large extent be accounted for by the fact that the members of the staff who were subjected to the test, and encouraged to have it done, were those who were readily liable to sore throats, tonsillitis, and general minor maladies. The usual proportion of positive cases over the age of 20 with the Schick test is from 15 to 20 per cent.

I injected the 248 patients who gave positive reactions with toxin-antitoxin mixture obtained from Messrs. Burroughs Wellcome and Co., London. Calcium lactate was administered before and after the injections. The patients were then kept in bed for eighteen to twenty-four hours, the temperature taken, and the general condition carefully noted. Only one reaction occurred, and it was transient. It consisted of pyrexia, headache, and slight local reaction resulting from the injection of 1 c.cm. of toxin-antitoxin mixture; eighteen members of the staff also received the "injections." Unfortunately two mild reactions occurred which necessitated their confinement to bed for a few days. The initial dose employed was 0.5 c.cm., followed by two doses of 1 c.cm. The interval between the injections was seven days.

No case of diphtheria has occurred in the institution since the test was commenced and artificial antidiphtheria immunization carried out. I hope later to test the Schick-positive cases again, and, if necessary, to re-inoculate.

This may readily be effected from three to six months after the injections. It is claimed that after three injections with toxin-antitoxin 70 to 90 per cent. of those treated are found to be immune after eight weeks.

Interesting figures have been published showing that in America of 90,000 Schick-tested, immunized, and treated school children, 14 got diphtheria, while of a similar number not tested or treated 56 acquired the disease. An extensive campaign has recently been started in New York to popularize antidiphtheria immunization. It would seem advisable to apply the system whenever a careful study of the epidemiological situation convinces us that it may be resorted to with advantage.

Another application of the Schick test is in the clinical diagnosis of diphtheria. A true case of faucial diphtheria will give a positive Schick reaction, but a carrier of virulent diphtheria bacilli will give a negative reaction. One observer recently noted twelve cases of diphtheria in children with a negative Schick reaction, but in the majority of the patients the disease proved to be nasal diphtheria. The test is of the greatest value in school epidemics. Children can be tested, and within twenty-four hours may be divided into two groups—the immune and the susceptible.

One of the chief difficulties in the use of the Schick test is the pseudo-reaction, which is due to the presence in the toxic filtrates of some substance which is more stable than the specific one, and which causes rise of temperature and other reactions. It is important that the toxin-antitoxin mixture should not be used after exposure to a temperature below 0° C.

The most favourable age for the administration of diphtheria prophylactic is from 1 to 5 years.

I am much indebted to Dr. F. Douglas Turner, medical superintendent of the Royal Eastern Counties Institution, Colchester, for allowing me to publish this article and for his valuable advice regarding the work. My thanks are due also to Dr. R. A. O'Brien, director of the Wellcome Research Laboratories, for giving me suggestions in the necessary technique.

THE MORTALITY OF ACUTE APPENDICITIS.

BY

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I PUBLISH the following figures in the belief that they indicate that the safest plan to adopt in treating acute appendicitis is to operate at once irrespective of the duration of the disease and of the local conditions obtaining.

All authorities are agreed that there is a steady increase in the incidence of appendicitis.

Deaths from Appendicitis in England and Wales (Registrar-General).

	Male.	Female.	Total.
1915	1441	1062	2503
1916	1474	1129	2603
1917	1390	1053	2443
1918	1298	1118	2316
1919	1278	1151	2429
1920	1389	1142	2531
1921	1474	1237	2711
1922	1524	1211	2735
1923	1608	1218	2826
1924	1545	1211	2756
1925	1624	1238	2862

These figures show an increase in mortality, but do not indicate the percentage mortality of the disease.

Adams[1] recently brought forward figures that had been collected from St. Thomas's Hospital, together with others already published by Love[2] from the London Hospital. They showed that the percentage rate of mortality in appendicitis is by no means as low as the general impression would indicate. In both these hospitals two methods are adopted in the treatment of the disease—one in which immediate operation is undertaken, and the other where delay is advocated if the patient is in the third to sixth day of the disease. The patient is watched, and if the condition is progressive, operation is undertaken.

The percentage case mortality is weighted by the cases of general peritonitis; Adams remarks that, if we omit these cases, "the St. Thomas's mortality comes down to 2.7 per cent. and that of the London to 3.5. These are very respectable figures, and seem to me to justify the gospel of immediate surgical treatment."

Further improvement in these figures can only be obtained by the early recognition of the disease, and especially is this the case in children, in whom the interval between the disease being limited to the appendix region and general peritonitis is frequently short. The advantage of delay in operation seems very doubtful; all its advocates appear to be agreed that it can only be followed under hospital conditions. This teaching must have its repercussion first on the general practitioner and later on the general public, and does not appear to me to be safe.

When an analysis of the cases treated on delayed lines is made it appears that at the London Hospital 109 cases out of a total of 341 were "unsuccessfully delayed," and at St. Thomas's Hospital 71 out of 214—in each case approximately one in three. It seems probable that the cases "unsuccessfully delayed" must be in a worse condition to withstand operative intervention than if they had been operated on when first diagnosed; the mortality in these cases is in fact higher than that of cases of local abscess which underwent immediate operation—at the London Hospital 6.4 per cent. compared with 4.6 per cent., and at St. Thomas's Hospital 14 per cent. compared with 4.2 per cent.

The figures at University College Hospital are taken for five years—from 1921 to 1925. The practice at this hospital has been to treat all cases diagnosed appendicitis by an emergency operation, irrespective of the day of the disease or the presence or absence of an abscess. Further, all cases diagnosed appendicitis are admitted to the surgical side, and are therefore under "one man control"—a point of considerable importance, as Adams has pointed out.

We therefore get in these figures the result on the case mortality of one quite definite line of treatment—namely, immediate operation. The cases have been divided into those that were drained and those cases in which the abdominal wall was sutured and no drainage employed. This gives a rough idea of the character of the disease, allowing for slight variations in the treatment of different operators; those cases that were drained either had general peritonitis or considerable collections of localized pus. The total number of cases was 602; of these, 274 were closed and 328 drained; 21 died (3.5 per cent.).

The number of cases of general peritonitis amongst these was 62, or about one-tenth, and the case mortality was 11—a percentage of 17.7. The mortality in the remaining 540 cases was 10 (1.8 per cent.). Two died of obstruction other than paralytic ileus, five with localized abscess, one of abscess of the lung, one from pneumonia, and one from spreading cellulitis of the abdominal wall. Among the cases dealt with, 95 were children under the age of 14; the mortality in these cases was 6—a percentage of 6.3 as compared with the above average of 3.5; of these 6 cases 5 died of general peritonitis. These figures bear out the seriousness of the disease in children, and the necessity of early diagnosis and immediate operation.

This fact is further brought out in the Registrar-General's figures for appendicitis and typhlitis for 1925, in which the deaths are arranged according to ages.

Years.	Males.	Females.	Total.
0–15	415	341	756
15–25	307	180	487
25–45	351	263	614
45–65	383	323	706
65–75	126	96	222
75 and over	42	35	77

It is stated by most authorities that the third to the sixth day is the dangerous stage at which to operate. It would appear probable that this statement rests on false premisses. Where immediate operation has not been advocated the cases are treated medically, and a number of

these successfully respond to this treatment. But the others, owing to extension of the disease, require surgical intervention, as is shown above, in approximately one in three of this type of case; and these being the worst cases, the mortality is higher, and gives the impression that this period is a peculiarly dangerous one. It does not appear to be so if immediate operation is undertaken.

Although it is a little difficult accurately to determine the day of the disease, I have done so as far as possible with these 21 fatal cases, and give for comparison the figures for all cases. The duration of the disease at the time of operation is shown in the following table.

Duration of Disease.	Deaths.	All Cases.
24 hours	2	173
48 ,, ...	7	142
3 days	1	91
4 ,, ...	2	57
5 days and over	6	137
Unknown	3	3

Of the six fatal cases shown of five days and over, one was wrongly diagnosed salpingitis and operation was delayed, and one was admitted and treated medically for ten days.

If we take the case mortality up to three days, we see that it is 9 in 315, and from three days up to five days and over it is 9 in 285; further, four of these deaths occurred in patients over the seventh day of the disease. This does not appear to be an undue preponderance in the case fatality between the third and sixth day.

If the relative figures of cases drained or sutured are taken as an index, the severity of the disease certainly appears to increase with the duration.

Table showing that the Number of Cases drained increases with the duration of the Disease.

Duration of Disease.	Closed.	Drained.
24 hours	125	48
48 ,, ...	60	82
3 days	33	58
4 ,, ...	20	36
5 days and over	36	101
Unknown	—	3

The presence of pus, however, is the indication for drainage, and we should expect to find it on the third day and over rather than in the earlier period. These figures, then, represent a pathological process rather than the severity of the disease, as it is well known that numbers of cases with abscess formation recover without surgical intervention.

In discussing the influence of immediate operative treatment on the mortality of appendicitis any other factor that is likely to influence that mortality should be taken into account, and in my opinion the method of approach is of considerable importance.

In the greater number of the cases quoted above the muscle-splitting incision was employed. The advantage of this appears to be that the diseased area is directly exposed, frequently the whole operation is conducted in a small compartment completely shut off from the general peritoneal cavity, and the natural extension of the disease, if pus be present, can be followed into the pelvis, very often without grossly soiling the rest of the peritoneum. Naturally this point is not of great importance if general peritonitis is already present, but in a number of cases this fact cannot be accurately determined before the abdomen is opened. I therefore think that McBurney's incision plays an important part in the successful treatment of acute appendicitis.

The figures I have given, showing 1.8 per cent. case mortality, excluding the general peritonitis cases, and 3.5 per cent. for all cases, appear to me to be further evidence in favour of immediate operation in acute appendicitis.

I am indebted to the surgeons at University College Hospital for permission to use these statistics.

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ANAPHYLAXIS AND ULTRA-VIOLET LIGHT TREATMENT.

BY

ALEXANDER BRYCE, M.D., C.M.GLASG.,

BIRMINGHAM.

ANAPHYLAXIS has been defined as hypersensitiveness to foreign proteins—either direct protein extracts or the products of various micro-organisms not necessarily pathogenic, and not in themselves toxic. The alarming symptoms and depression are said to be explained by the formation of an antibody, probably a very insoluble precipitate in the blood serum of the patient, profoundly interfering, like histamine, with the capillary circulation and producing an asphyxia in the tissues themselves.

The following diseases have been attributed to its operation: asthma, bronchitis, hay fever, certain skin affections, angioneurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome.

Many specific methods have been used in the treatment of these disorders, but the only one common to the whole group is the use of peptone in small gradually increasing doses, never large enough to produce any pronounced reaction. The resultant immunizing action is said to be due to the detachment from the cells of antibodies which destroy the antigen in the blood. Auld, on the other hand, regards the antigen-antibody product as the cause of the anaphylactic shock. What is perhaps of more significance than either suggestion is the fact that leucocytosis is certainly produced by the reaction to peptone and other definite chemical substances, the bone marrow being stimulated to produce with great rapidity at least a double quantity of leucocytes. Though we have no very clear picture of the way in which the curative results are brought about, yet as similar results accrue from the use of ultra-violet rays in many of the maladies mentioned, and as we have some knowledge of the method whereby they do their work, it occurred to me that consideration of the facts might in some degree illumine the subject. It must be premised that by no means all cases of asthma or allied maladies are due to protein sensitization. Some may be due to nervous reflexes, some to hereditary diathesis, whilst others may require the combination of all three factors. I propose, therefore, to give the results of ultra-violet therapy in a typical case of spasmodic asthma and bronchitis of the most severe character, in a typical case of protein sensitization, and in a typical case of asthma alternating with eczema.

Miss B., aged 45, had been subject to the most violent attacks of asthma for over twenty years, each attack confining her to bed for many days and sometimes weeks, where she would lie with cyanosed countenance, struggling for breath, wheezing râles with slight expectoration being heard two or three rooms away. Sometimes slight relief was obtained by pitrenalin, sometimes by adrenaline, and sometimes by morphine, but her life was a burden, and the last few attacks looked as if they might be fatal. Early in 1924 I commenced irradiation of the back and chest with the quartz mercury vapour lamp on the one and the carbon arc lamp on the other, alternating after a few minutes. From the first treatment she began to experience relief, although it was many months ere the wheezing quite disappeared. For the succeeding year a weekly treatment has enabled her to live without any discomfort or even suggestion of asthma and bronchitis.

Miss E. S. for many years had sudden violent attacks of a suffocative feeling in the throat, with a sensation as if pepper had been sprinkled over it, followed by intense wheezing inspiratory and expiratory efforts, mucous râles, and a sense of impending death. Many kinds of treatment were tried by laryngologists and physicians, including pollantine and peptone; finally adrenaline in three-drop doses subcutaneously produced relief in three minutes or less, although it left the patient in a most exhausted condition. Skin testing elicited the fact that acid fruits, and especially raw apples, appeared to engender these attacks, and care in dieting reduced the attacks considerably but not completely. For close upon twenty months this patient has been acting as my assistant in the treatment of cases by ultra-violet light rays, besides which she has had many direct irradiations over the chest and back. For over a year she has been quite free from attacks despite occasional dietetic trespass.

Miss N. L., aged 28, has been an asthmatic from birth. The asthmatic attacks were suddenly replaced by universalized eczema, for which many kinds of treatment, both external and internal, were tried for a year without success. She then consented to try ultra-violet light, with the result that six treatments in three weeks completely cured the eczema, and she is persevering with the irradiations in the hope of completely eradicating the asthma.

I have seen many cases of neuritis and lumbago cured by the use of ultra-violet light. I believe such cases are due to a specific anaphylaxis excited by proteins absorbed from the bowel while it is in a state of catarrhal inflammation. The sudden incidence is probably due to exercise creating a local acidosis from the lactic acid produced in the muscles, which tends to make the cells more sensitive to the proteins.

At least one of the three cases I have cited was a pure example of anaphylaxis, and, in her, peptone failed completely, whilst ultra-violet irradiation was a complete success, as it was in the other cases. Now it has been demonstrated that exposure to the sun's rays causes a general hyperleucocytosis with a relative neutropenia and a strong relative lymphocytosis. I frankly admit that this is comparable with the leucocytosis produced by the injection of peptone, and it is quite possible that this helps to account for the anti-anaphylactic action of ultra-violet light rays. But it is only one of the remedial results of ultra-violet light, and probably the least effective; this doubtless accounts for the frequent failure of peptone, and in any case for the short period of protection it affords. Another valuable therapeutic effect of ultra-violet rays is their directly germicidal action on the body, increasing the bactericidal powers of the blood, thus reducing the formation of bacterial toxins.

Probably the most useful function of ultra-violet rays is their power to increase the absorption of calcium and phosphorus, which, with the formation of vitamin D from the cholesterol in the skin, is doubtless the main factor in the cure of rickets. This also leads not only to the better nutrition of the bones and nervous system, but also to the alleviation of spasm and the induction of a calmative effect on the nervous system. Nor must it be forgotten that there is an increase of iron in the blood and a decided rise of haemoglobin in the erythrocytes, diminishing the risk of dyspnoea and asphyxia, so potent a factor in asthmatic conditions.

Finally, the internal secretions of the thyroid and adrenal glands are increased, and they are both valuable in the treatment of asthma and allied conditions.

It will be observed that the ultra-violet light treatment of asthma counters the varied factors in its causation, and is valuable, not only for cure, but also for prophylaxis.

A METHOD OF ESTIMATING CARDIAC OUTPUT.

BY

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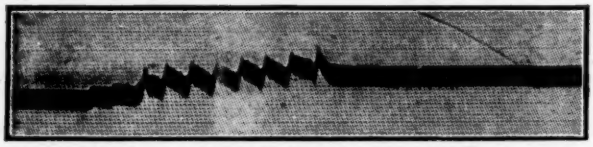
THE problem of the correct treatment of heart disease reduces itself largely to cardiac output. The common type of heart failure means diminished cardiac output, and we shall never be able to tackle the problem of heart failure properly unless we have a reliable method for determining the output of the heart.

The following is a description of a method for estimating cardiac output. The underlying principle is simple. The venous pressure is measured by inserting a needle, preferably in the cephalic vein of the arm. A given number of heart beats are admitted. Then the pressure is taken again, and from the increased venous pressure we calculate the output per beat, or, if desired, per minute. It will be seen that the principle underlying this method is the determination of the single output by variation of the venous pressure. Particulars are as follows.

The pneumatic tourniquet of a sphygmomanometer is placed on the arm; a needle with as wide a bore as possible is inserted in the cephalic vein and connected with a manometer containing a solution of 0.7 per cent. sodium chloride and 0.5 per cent. citric acid. The venous pressure is now taken. Then the artery is compressed very rapidly by means of the airbag so as to obliterate completely the brachial artery. The venous pressure is taken again, after which the arterial blood is allowed to enter the limb for the space of 5, 10, or 15 beats by relaxing the airbag. At the same time the pressure must remain high enough to prevent the venous circulation from being re-established.



A record of the number of beats which were allowed to pass into the lower part of the upper extremity. It will be seen from this chart that one is able to recognize those beats which do not completely pass through and to account for them in calculation.

The pressure in the veins is now taken again. It will be seen that it is necessary to take the venous pressure three times: first, when the circulation in the veins as well as in the arteries is free; secondly, when the circulation is cut off in the veins as well as in the arteries; thirdly, after a known number of beats have been admitted, the venous circulation still being cut off. The first and the third measurements are essential for our purpose, the second serving as control only.

The following readings are typical:

Venous Pressure Experiment.

V.P. = 4 inches.
After compression = 9 inches.
After eight beats (see chart) = 23 inches.

$$\therefore \frac{\text{Rise} = 14 \text{ inches.}}{} = 1.75 \text{ inches per beat rise.}$$

Case of specific carditis. Wassermann reaction ++; blood pressure 145/105; pulse rate at time of experiment = 120 per minute.

It remains to say a word in regard to the counting of the beats, which is not so simple as might be imagined. The only satisfactory method of getting a reliable count is to place the pad of a Mackenzie's polygraph on the radial artery and record the beat by means of the needle on a photographic slide, such as is available in the electrocardiograph.

I am indebted to Dr. Crawford, assistant physician, Liverpool Heart Hospital, for valuable assistance in carrying out the experiment.

THE PROGNOSIS IN FRACTURES OF THE OS CALCIS.

BY

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IN any case of fracture two questions must be answered: How long will the patient be incapacitated for work and require compensation? and To what extent will he be permanently crippled?

The investigation here reported was undertaken to determine the duration of the disability, and the degree of final impairment of function in cases of fracture of the os calcis. Twenty-five such cases were treated at the Northern Hospital, Liverpool, in the period 1921 to 1924. Of these, only fourteen reported for re-examination after completion of treatment; they were all men, and their average age was 45 years. In every case the fracture was caused by a direct fall on the heel.

For comparative purposes the period of disability was taken as the time between the date of the accident and of the man's resumption of a permanent occupation; in most cases this was determined by proceedings under the Workmen's Compensation Act. The average was eleven months. In seven cases the period was between eight months and a year; the shortest period was three months, and the longest twenty months.

The final results were difficult to assess. All the patients were ultimately able to resume moderately heavy work. None became industrial cripples. All complained of pain in the heel when running, or walking fast on uneven surfaces, such as cobble-stones, or in damp weather. In

one patient these symptoms had persisted for seven years after the fracture.

To elucidate the factors determining the disability, I compared the clinical and radiological appearances in those patients who did well and returned to work within six months, with those of the patients in whom the disability persisted for more than twelve months. Certain factors seem to have no bearing on the prognosis; all cases showed varying degrees of callus excess below the malleoli; a slight valgoid deformity was present in two cases only. The presence of a plantar spur was common, but in one case only did it seem to cause part of the pain and require the use of an excavated heel, which partially relieved symptoms.

Comparison, however, of the range of movements of the foot and the radiological appearances led to certain definite conclusions.

In the group of cases with a short period of disability the movements of inversion and eversion of the foot were, with one exception, grossly limited, but free from pain. Radiological examination showed extensive comminution of the os calcis and osseous ankylosis of the astragalo-calcaneal joints. In the one exception the joint surfaces were intact, and only the lower part of the bone had suffered compression.

In the second group, of inveterate cases, the movements of the foot had a freer range, but were attended with pain on full eversion. The radiological appearances showed relatively slight amount of bony damage. In one case, indeed, the lamellar structure of the bone was completely restored five months after the accident, though with no corresponding clinical improvement. A constant feature of all the inveterate cases was the irregularity of the articular surfaces for the astragalus. In no case was bony ankylosis present.

The radiological findings and the pain on movement point to the condition of the subastragaloid joints as being the determining factor in prognosis. At these joints occurs the second half of the movement from full inversion to full eversion of the foot, a movement elicited only by exertion, and effected by a vertical rotation of leg and astragalus on the os calcis. An osseous ankylosis of these joints produces a permanent but painless limitation of this movement, a loss which is by no means crippling; one man, indeed, returned to his work as a window cleaner in four months. On the other hand, a traumatic arthritis of these joints is perpetuated by any movements requiring eversion of the foot. As is always the case, fibrous ankylosis is more painful than osseous.

Conclusions.

From this confessedly small series the following conclusions arise:

The average period of disability after fractures of the os calcis is eleven months. The length of the period depends on the condition of the subastragaloid joints, and not directly on the amount of bone damage.

When these joints are ankylosed as a result of the fracture the foot improves in six months to an optimum stationary condition, with a limited but painless range of eversion of the foot.

Should the joints escape entirely the prognosis is so much the better, but when an incomplete fibrous ankylosis results from the fracture, improvement is slow and eversion is often permanently attended by pain.

The principle attributing most of the residual disabilities of fractures to implication of neighbouring joints is well exemplified by this series of cases.

My thanks are due to Mr. McMurray, honorary orthopaedic surgeon of the Northern Hospital, for his help, and permission to examine many of his cases, and to Dr. Oram for the use of the radiograms.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A FATAL CASE OF ACUTE PULMONARY OEDEMA.

A NUMBER of cases of acute pulmonary oedema, most of which have fortunately responded to the recognized treatment, have recently been reported. The following fatal case seems worthy of note.

A factory girl, aged 16, was brought to the East London Hospital for Children in the early morning of January 14th, 1926, in a collapsed and breathless condition. She had done an ordinary day's work, had been out for a walk after supper, and went to bed at 11 p.m. perfectly well. At midnight her sister, who was sleeping in the same room, was awakened by her vomiting and gasping for breath. She was hurried to the hospital, and I saw her immediately on her arrival.

She was a well-nourished girl; she was very restless, rolling from side to side, and clutching at her throat. She was cyanosed, and her expression very anxious. Frothy, straw-coloured fluid was streaming from her mouth and nose. The heart was somewhat enlarged, and a systolic and presystolic murmur was heard at the apex; the heart rhythm was regular, and the pulse 80. The bases of the lungs were full of bubbling râles. The liver was not enlarged, and the spleen not palpable. There was no oedema of the ankles. A hypodermic injection of atropine 1/100 grain and morphine 1/4 grain allayed her restlessness, but she complained of intense thirst, although frothy fluid was streaming from her mouth. Two hours after the onset of her symptoms she died.

I ascertained from her mother that three years previously she had been in an infirmary for "heart trouble," but had led a normal and healthy life since then without any symptoms at all.

At the *post-mortem* examination, conducted the next day by Dr. Temple Gray, pathologist to the hospital, the heart was found to be enlarged and fatty, and there was definite mitral stenosis. The lungs were sodden, and large quantities of fluid exuded from them. Frothy fluid was also found in the bronchi.

The point worthy of particular note is that the rhythm of the heart was regular throughout the attack. The question arises as to what was the cause of the sudden onset of the alarming and fatal symptoms.

I am obliged to the resident medical officer, Dr. A. G. Ogilvie, for permission to publish this case.

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EXTENSIVE NECROSIS IN CHICKEN-POX.

THE following case of necrosis complicating varicella presents some unusual features which make it worthy of record.

On December 24th last I saw a female child, aged 2 years and 9 months, who had contracted chicken-pox from her sister, aged 8. The temperature was 103°, the pulse 132, and the tongue was coated, but the throat was normal. She objected to being moved. There was a slightly reddened, tender patch over the lower part of the right shoulder-blade alongside a vesicle. There were not more than twenty vesicles in all on the body and head. The heart and respiratory sounds were normal. Ichthyol ointment (20 per cent.) was applied on lint covering a wide area; the bowels were moved, and antipyrin prescribed in small doses every four hours. The following day the temperature had fallen a degree, but the general condition had not improved. The area of redness over the right shoulder-blade had increased and there was a wide margin of tenderness beyond.

During the succeeding forty-eight hours the condition grew worse. The affected area became discoloured and the patient more toxic. No further vesicles appeared. The temperature varied from 100.5° to 102°. The child was very fretful, restless, and rambling in her talk, and slept badly. On the fourth day she did not appear to see distinctly. She was, however, taking Benger's food and fluids in abundance. On this day I asked Dr. A. Whyte Cassie to see her in consultation. A small necrosed patch, rather smaller than a shilling, was then present at the original site of the inflammation, and below this the skin was discoloured. Tenderness and muscular spasm extended to the vertebral column posteriorly and to the middle line of the chest and abdomen anteriorly. There was tympanites and constipation. Dr. Cassie advised that the treatment should be continued, and small doses of brandy given.

The necrosed patch increased in size daily. There was no suppuration, but the body became dusky and mottled. Wet boric dressings, changed twice daily, were applied. By the morning of December 30th the patch, roughly oval in outline, measured about 1½ by 3 inches. On December 31st I asked Dr. Seiller, the medical officer of health of the district, to see her. The necrosed patch was then double the size of the preceding day and was beginning to separate at its upper margin. He advised continuance of the boric soaks, but felt, with me, that the prognosis was very bad. As a last resort I injected 7½ c.cm. of antistreptococcal serum about 10 p.m., but the child died between 2 and 3 a.m. on January 1st.

The points of interest manifest in the case are: (1) The virulent, though not widespread, infection conveyed to the patient by her sister, a mild case seen sixteen days previously, who was never a day in bed. (2) The house and children were spotlessly clean; necrosis complicating

chicken-pox is generally associated with uncleanliness. (3) Only one vesicle showed necrotic change. (4) The child's health previously had been good.

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Ibrox, Glasgow.

ESTIMATION OF THE CURE OF BILHARZIASIS.

THE decision whether a patient has been cured of bilharziasis depends mainly upon the microscopical examination of the urine. The last few drops that are passed are the most likely to contain the ova, and the best plan is to let the patient express the last portion of urine into a test tube, so that it can be centrifugalized and examined without delay.

When a child is experiencing slight cardiac depression during the third and fourth week of the emetine treatment, as evidenced by a quickened pulse and fretfulness, the ova may disappear temporarily from the urine. Absence of ova during treatment may also be caused by local reaction from unskilful injections or from any general indisposition, so that it cannot be depended upon as evidence of cure; this can be judged as certain only when frequent examination of the urine shows a complete absence of ova, either alive or degenerated, and only an occasional leucocyte. If treatment has been unsuccessful, careful examination of the urine will reveal live ova within a month or six weeks. By that time the antimony or emetine will have been excreted, and the comparatively small parasitic worms will have recovered from the effects of the drug.

A fresh infection may cause a strong eosinophilia, but it will not cause ova in the urine for at least three or four months. A large proportion of patients with bilharziasis are indigent school children, Indians, and natives whose constitution is undermined by irregular and insufficient feeding; special attention must be paid to the earliest signs of cardiac depression. A warning is needed against the oral treatment of patients who cannot be kept under constant medical supervision. Children are not readily persuaded to continue treatment after their obvious symptoms have disappeared; under the emetine treatment this disinclination may indicate early cardiac depression, which may demand a temporary suspension of treatment.[1]

In a boy, aged 4 years, 6 grains (0.36 gram) of emetine hydrochloride, given intramuscularly over a period of forty-nine days in doses ranging from one-sixth to one-third of a grain, appeared to have been successful, the patient showing general improvement in health and no toxic effect from the drug; but numerous living ova, with a slight recurrence of haematuria five weeks later, made it necessary to give a further course of 6 grains in twenty-nine days, in doses of from one-third to two-thirds of a grain. Toxic effects were seen only during the last few days of treatment, when there was slight drowsiness and vomiting after the two injections of two-thirds of a grain of emetine. Six weeks later living ova were again present in the urine, rendering a further course of treatment necessary.

The use of emetine periodide[2] has shown that it compares favourably with intramuscular injections of emetine hydrochloride; but it has yet to be proved that the results are permanent, or how far oral treatment may not be of limited service in view of the cost of the drug and the difficulty of supervising patients with bilharziasis. The emetine treatment becomes effective only when slight toxic effects begin to appear as a result of the accumulation of the drug during the third and fourth weeks; if treatment is not continued further it results in a probable cure of not more than 25 per cent. of the cases. In this respect it corresponds with the antimony treatment, which is to be preferred in all possible cases.

Durban. F. G. CAWSTON, M.D.Cantab.

UNUSUAL HERNIA IN INGUINAL REGION.

THE following case is recorded on account of the unusual position of the hernia, which resembled those found in the epigastric region.

A man, aged 41, was raising a stone at his work on December 20th, 1926, when he felt a sudden pain in the left groin. He was taken home and examined by his doctor, who found an inguinal hernia the size of a hen's egg extending slightly into the scrotum. It was easily reduced.

The man was admitted to hospital, and an operation was performed on January 3rd. Examination prior to operation failed to detect a hernia, but an indefinite swelling was noted in the region of the external ring.

At the operation the external oblique aponeurosis was slit up and the canal displayed. No hernial sac was discovered, but a considerable quantity of extraperitoneal fat was present; this was removed. On retracting the upper lip of the external oblique aponeurosis upwards and inwards a mass of extraperitoneal fat was seen. It came out of an opening in the abdominal wall, the size of a cedar-wood pencil. It was just lateral to the rectus sheath, and half an inch above the pubis. There was a process of peritoneum in the fat, but no abdominal contents. The sac was ligatured and the opening closed with a mattress suture.

Aberdare. HARRY BANKS, M.B., F.R.C.S.Ed.

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British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

GLOUCESTERSHIRE BRANCH.

Gastric Carcinoma.

AT a meeting of the Gloucestershire Branch on February 10th, Dr. J. RUPERT COLLINS in the chair, Mr. ARNOLD ALCOCK opened a discussion on the diagnosis and treatment of carcinoma of the stomach.

Mr. Alcock emphasized the difficulty of diagnosis. He pointed out that the chief seats of malignant growth were the breast, uterus, and stomach. Though in the first two the signs were discernible, yet the results of treatment were very poor. The stomach presented a much more difficult problem. Three types of gastric carcinoma could be distinguished: (1) The indurated ulcer, found as a rule in the lesser curvature, and of much the same type as simple gastric ulcer. Probably carcinoma did not develop from a simple ulcer so frequently as might be expected. Nine-tenths of cancers of the stomach were not preceded by ulcer. (2) The spreading type, encircling the stomach and giving rise to the leather-bottle stomach in its late stages. This was really an advanced example of the first type. (3) The fungating ulcer, which, spreading in the submucosa to start with, invaded the lymphatics, and soon passed out of reach in the portal area. The mediastinum was often infected, and hard glands might be found above the clavicles. Loss of appetite was very suspicious in a patient previously healthy. Sour eructations were complained of, and were frequently offensive. As a rule vomiting was slight in amount and it was rare to see blood. Loss of weight was often rapid, and was an important symptom. Blood might be demonstrated in the stools. Exploration should be undertaken when these symptoms were present. Abdominal tenderness was present before any lump could be felt. Moynihan was quoted as giving three indications for operation: (1) All cases with chronic ulcer over 40 years old, (2) if gastric stasis was present (delay of ten to twelve hours), (3) all cases of tumour. The surgeon was frequently disappointed when he opened the abdomen. Even when an early case had been expected there might be nothing to do but to shut up the abdomen again. In cases with a history of only a few months at the operation the condition might be found to be beyond treatment. The actual surgical procedure consisted in excising as much of the stomach as possible, with the lymphatic glands in the lesser curvature. Early diagnosis was of supreme importance, and at the same time presented much difficulty.

Dr. D. E. FINLAY said that as regards getting cases earlier he was sure there had been a great advance since twenty-five years ago, when diagnosis was so often delayed till there was a palpable growth. One source of error in coming to an early and correct diagnosis was the question of age. Malignant growth was possible even at an early age; his youngest patient had been a woman aged 22. In reviewing his cases the symptom on which he would put most stress was failure of appetite or even an actual distaste for food; in some cases this amounted to nausea. This was present for a considerable time before loss of weight. Indeed, many patients had not lost weight when the symptoms had aroused suspicion of malignant growth. Definite vomiting was a later symptom; many cases did not present it. Anaemia and other such signs were found to be really late when the history was carefully taken. In his

cases there had been no long history of indigestion; most patients had very short histories. He mentioned one notable exception—a man who had a long history of indigestion and vomiting. He was thoroughly overhauled in hospital with a negative result, but eighteen months later he was readmitted, and on the abdomen being opened an inoperable carcinoma was found. Dr. Finlay had been very disappointed by *x*-ray and chemical investigations. Dogmatic statements emanated from the *x*-ray department, but when the abdomen was opened great divergences were found from what had been expected. Trouble in the region of the stomach, leading to filling defects shown by *x*-rays, explained some of the fallacies. Chemical investigations had produced similar disappointments. The absence of hydrochloric acid was not worth much, nor the demonstration of occult blood. For really early diagnosis he laid most stress on loss of appetite, nausea, and possibly loss of weight. It was necessary to think carefully before jumping to the conclusion that the stomach was at fault. He had seen mistakes arise from missed tubercle, diabetes, and syphilis. It had been suggested that venous thrombosis occurring in the body might be an early symptom of malignant growth. He had recently had a case which might bear that interpretation. No medical treatment could cure, but in inoperable cases symptoms were diminished by pepsin preparations and hydrochloric acid. Washing out the stomach was often useful.

Dr. E. N. DAVEY, dealing with the chemical tests, admitted the difficulty of the laboratory worker, and the most claimed was that if the chemical findings were properly correlated with the clinical findings they were of some value. The two tests on which reliance was often placed were the test meal and the discovery of occult blood; both were of problematical value. Even when a growth was present only a very small proportion of the total mucous membrane might be damaged and a normal finding might result. The fractional test meal was the only one of practical value, but the patient must be properly prepared. He should be on light diet for one day. In the evening he had a glass of milk with two drachms of charcoal, and the test was performed next morning. The stomach must be completely emptied and the total volume of the fasting juice ascertained. In the fasting juice a great deal of evidence was to be found; obstruction might be diagnosed at once, and absence of HCl with a great increase in the acids of putrefaction was in favour of carcinoma. The presence of blood was an indication for intervention. The stomach was long in emptying in carcinoma. In one and a half hours there should be loss of acidity, but this was not found in carcinoma of the pylorus. Dr. Davey pointed out that the hyperacidity found in ulcer cases was due to the ulcer condition—a result and not a cause. As regards occult blood in the stools, its value was lessened because as a rule the patient was not properly prepared. He ought to be kept on a purely milk diet for at least three days; the diet must be free from meat and chlorophyll. Then charcoal should be administered, and when that had appeared in the stools the next specimen should be taken for examination. The presence of occult blood after these precautions, and in the absence of any bowel condition, indicated either simple ulcer or carcinoma of the stomach, but gave no help in distinguishing between the two.

The discussion was adjourned to the next meeting.

Clinical Cases.

Dr. JOHN GREENE described two cases of adiposo-genitalis which he had under treatment, and demonstrated one—a boy aged 8 years and 7 months. The case showed all the classical symptoms, including enlargement of the sella turcica, revealed by *x*-ray examination. One of the patients had a slipped epiphysis at the head of the femur, and this condition was discussed in detail by Mr. STALLMAN. Dr. GREENE reported that administration of pituitary anterior lobe tablets had apparently produced improvement, the boy of 8 years showing a loss in weight from 7 st. 10 lb. to 7 st. 7 lb.; the abdominal girth had been reduced two inches. Dr. Greene expressed some surprise at the improvement, as he had not really expected it.

Reports of Societies.

DIVERTICULA OF THE ALIMENTARY CANAL.

AT a meeting of the Harveian Society, held at Paddington Town Hall on March 10th, with Dr. E. LE FEVRE PAYNE, the President, in the chair, the Harveian Lecture was delivered by Sir BERKELEY MOYNIHAN, Bt., who took for his subject "Diverticula of the alimentary canal."

Harveian Lecture.

Sir Berkeley Moynihan described a diverticulum as a wayside track from a main path. In the alimentary canal a diverticulum was due to a protrusion of the mucous membrane from the lumen of the bowel, and in this protrusion other coats might take part or might not. The extrusion of the wall of the intestine was an essential step in the formation of several organs whose functions were associated essentially with the work carried on in the digestive tract. Thus the liver and the pancreas arose as buds from the wall of the intestine. But not all the little pouches springing from the mucosa came to this full development. The lecturer then spoke of three different degrees in development. In the first place, the diverticulum might develop in foetal life and proceed on its normal career, leading to the growth of the liver and pancreas (whose connexion was maintained with the alimentary canal through their ducts), or of the appendix (whose connexion throughout its length was fully maintained, with no differentiation into a duct), or of the thyroid gland. The lumen of the protrusion from which a large part of the thyroid gland developed did not go deeply into the solid bud which consisted of cells forming the thyroglossal tract; the foramen caecum on the dorsum of the tongue was the only patent part of the diverticulum. In the second place, the diverticulum might develop normally in foetal life, but its connexion with the mucosa in the adult might remain only in a curtailed condition, or it might finally disappear. He mentioned the diverticulum of Meckel found in the lower part of the ileum; this was the unclosed part of the omphalo-mesenteric duct. Again, the pouch of Rathke, seen in early infancy, vanished as a rule completely in the course of a few years. Finally, the diverticulum might develop and in normal circumstances disappear in foetal life, though in a few instances this normal atrophy and disappearance might not take place, and the diverticulum be found in the adult. Lewis and Thyng in the United States had found that diverticula from the stomach, duodenum, and jejunum were frequently found in foetal life, and at their tip little solid masses of cells were seen identical with the cells from which the pancreas grew. These cells normally withered and were absorbed, and it would seem as though a whole series of efforts were made to develop the pancreas, only those connected with the ducts of Wirsung and Santorini surviving. The others were there in case of mischance. In a few such cases the normal disappearance did not occur, and gastric, duodenal, or jejunal buds, with an accessory pancreas attached to each, might persist into adult life.

The various forms of diverticulum which occurred might be classified in three groups: (1) A diverticulum which arose as a bud from the wall of the intestine during development would contain all the coats of the bowel at that point; it was said to be "congenital" in origin and "true" in structure. (2) A diverticulum which occurred after development was complete, and was due to some abnormal process, would be found to contain, as a rule, only the mucous coat, with or without an adventitious fibrous layer, and in no case did it display all the intestinal coats; this was "acquired" in origin, and "false" in structure. (3) An acquired diverticulum might be caused either by the pushing out of the mucosa from the lumen owing to increased intestinal pressure, or it might be dragged out from the wall by the adhesion of some firm structure to the outer side of the bowel; in the former case it was a "pulsion diverticulum," and in the latter a "traction diverticulum." A diverticulum caused by the traction of an adherent structure to the outer side of the

alimentary canal, as, for example, in the oesophagus, might enlarge because of the pressure of increasing quantities of retained substances within its cavity. Beginning as a traction diverticulum, its enlargement was due to conditions similar to those which created and enlarged a pulsion diverticulum. Another form of diverticulum, the "traction-pulsion diverticulum," might therefore be described.

The lecturer next described and illustrated the changes which might occur. These included: inflammation in and around the sac—that is, diverticulitis and peridiverticulitis; suppuration; sloughing and gangrene; perforation to the surface, to a serous cavity, pleural or peritoneal, or to another viscus; adhesions which led to the compression and withering of the sac, or, in the case of Meckel's diverticulum, leading in one way or another to intestinal obstruction; development of carcinoma, and, finally, rotation of the sac when it had grown to such a size as to develop a neck or pedicle, this rotation, together with the pressure of the distended sac, causing obstruction. Pharyngeal diverticula were frequently described as oesophageal. On careful examination, however, and dissection of *post-mortem* specimens, it would be seen that the point of formation was the middle part of the inferior constrictor and the area known as the cricopharyngeus. Such pouches he did not regard as uncommon. They caused difficulty in swallowing on account of the swelling in the neck, and, when speaking, such people projected puffs of air between the syllables. Diagnosis by *x* rays was usually easy. He thought it was always best to remove these pouches by operation, and he illustrated with lantern slides the procedure he favoured. Diverticula occurred mostly at parts of the bowel where the wall was pierced by a blood vessel, weakening occurring in consequence of this piercing. He was quite clear that diverticula might exist without reducing the lumen of the bowel. For people with intestinal diverticula he recommended the taking of plentiful supplies of paraffin and a weekly dose of a stiff aperient.

Replying later to a vote of thanks, which Sir D'ARCY POWER proposed and Sir WILLIAM WILLCOX seconded, Sir BERKELEY MOYNIHAN spoke of the cancer campaign which had had such a good send-off in Yorkshire. His ambition was to enlist every medical man as an ambassador for this cause.

ECTOPIC PREGNANCY.

AT a meeting of the North of England Obstetrical and Gynaecological Society, at Sheffield, on February 25th, with the President, Professor FLETCHER SHAW, in the chair, Professor DOUGAL (Manchester) gave a review of 100 cases of ectopic pregnancy.

Professor Dougal said that he had operated on 100 patients for ectopic pregnancy during the last seven and a half years; in 5 instances a second operation for a similar condition was required. The pregnancy was situated in the Fallopian tube in 103 cases. In 2 cases of infected haematocele only the posterior fornix was opened. In the vast majority pregnancy was early; in only 2 cases had the foetus reached two months' development. In 94 cases tubal mole was present (76.5 per cent.), and the pregnancy was on the right side in 59 per cent. The terminations observed at the time of operation were: tubal abortion (52 per cent.), tubal rupture (37 per cent.), unruptured (12 per cent.). In four cases it was impossible to give an opinion, and both rupture and abortion were noted in one case. In 66 per cent. the condition arose between the ages of 26 and 35; the youngest patient was 21 and the oldest 43. The greatest number of cases occurred during the first five years of married life, but a large proportion occurred during the second five years. In 8 cases the patients had been married one year or less, and in all of these the ectopic was the first pregnancy. Evidence of pelvic infection was noted in only one of these cases. Nearly one-third of the patients had never had a previous uterine pregnancy. Taking the normal interval between successive pregnancies as not more than three years, the interval was unduly long in 55 per cent., and exceeding five years in 31 per cent. The shortest interval was seven months in one case. The chief predisposing cause of extrauterine pregnancy was undoubtedly a previous pelvic infection which so damaged the Fallopian tubes as to obstruct or delay the passage of the fertilized ovum to the uterine cavity. Developmental abnormalities and distortion of the tubes might have a similar result, but occurred less frequently. In certain cases, as in gonococcal conditions, evidence of old infection could only be seen microscopically in the mucosa of the tubes. In this series old-standing adhesions were present in 50 per cent. of cases. The opposite tube was converted into a hydrosalpinx in 7 cases, and a pyosalpinx in one case. The only developmental abnormality met within this series was a bicornuate uterus; the pregnancy was situated in the right tube, and terminated by abortion. Fibroids were seen in 2 cases. The diagnosis rested on a symptom complex which included one or more of three cardinal symptoms: amenorrhoea (72 per cent.), irregular uterine haemorrhage (92 per cent.), and abdominal pain (97 per cent.); pain on defaecation was also an important symptom. Shoulder pain was usually associated with ruptured tubes where the peritoneal cavity was suddenly flooded with blood. Irregular uterine haemorrhage was associated with the separation of uterine decidua, but not invariably, since it might persist after the complete expulsion of decidua or curetting, and might then be due to presence of living chorionic villi. Abdominal pain, generally sufficient to indicate to the patient that something was wrong, might be lancinating, colicky, or diffuse. The site of pain usually indicated the site of the pregnancy. Amenorrhoea, uterine haemorrhage, and abdominal pain were present together in 64 per cent. of cases; bleeding and abdominal pain together in 24 per cent. Amenorrhoea and abdominal pain were found in about 4 per cent., amenorrhoea and bleeding in 3 per cent., and pain alone in 3 per cent. The cases might be divided into three groups or clinical types. (1) The ovum remained in the tube, and there had been little or no haemorrhage into the abdomen. There had been 14 cases in this group, or 13 per cent. (2) Rupture or abortion occurred with diffuse intraperitoneal haemorrhage. There had been 29 cases of this type, or 27.6 per cent. (3) Rupture or abortion had been associated with gradual or repeated haemorrhage into the abdomen. This was found in 62 cases, or 60 per cent. Treatment was surgical, and the sooner it was started the better the outlook. It was impossible to foretell when another, and possibly fatal, haemorrhage would occur. In the very severe cases, where the patient was pulseless and in profound shock, the operation might be delayed for a time while treatment was directed to the shock, but after relieving it the operation should be undertaken immediately. There was no disease of like severity where the response to prompt surgical treatment was so rapid and so satisfactory. There were no deaths in his series. Of the patients traced who had been operated on more than six months previously the results were: subsequent uterine pregnancies, 46 per cent; subsequent ectopic pregnancies, 13 per cent.; no subsequent pregnancy, 41 per cent. The prognosis as regards subsequent uterine pregnancy was fairly good, but there was a serious risk of the patient having a second ectopic pregnancy. In this series 7 patients had two ectopic pregnancies, 5 of the patients having had both operations performed by the speaker.

Dr. LACEY asked if there was any history of infection in the puerperium in these cases; he thought that shoulder pain was usual. Dr. KING considered that rectal pain was more common than shoulder pain. He strongly advised waiting in the very severe cases till the accompanying shock had been treated. He did not regard the other cases as urgent at all.

Dr. LEITH MURRAY had recently studied his series of cases, numbering 112. He found them more common on the right side (67) than on the left (45). He did not agree with Professor Dougal as to the terminations; in his own series the intratubal ruptures greatly exceeded the tubal ruptures, the figures being: intratubal rupture, including mole abortion, 105, primary peritoneal rupture 1, secondary peritoneal rupture 4, intraligamentary rupture 2. He agreed that in the majority of cases there was evidence of pelvic disease or a history of antecedent infection. He was of the opinion that disease of the appendix might be

a common predisposing factor, accounting in the first place for the preponderance of cases of pregnancy on the right side. In these cases he had removed numbers of apparently normal appendixes, and on microscopical examination had found them diseased. In his series a history of amenorrhoea was less often elicited, and pain was not so marked a feature.

Dr. CROFT said that in his experience amenorrhoea was not so marked a symptom, and the pain was generally in the abdomen, in some cases being situated elsewhere than over the lesion. Dr. A. A. GEMMELL asked if there was any evidence of an increased number of abortions preceding these ectopic pregnancies, as in Germany it had been thought that ectopic pregnancies had increased with the increase in criminal abortion during the war. Mr. ST. GEORGE WILSON had used transfusion with the patient's own blood in a case of uterine rupture, with satisfactory results. Mr. W. GOUGH agreed as to early operation. Professor MILES PHILLIPS had recently collected 150 cases, with 3 deaths, and thought that in a number of cases ovarian disease or disfunction was a factor. The PRESIDENT remarked on the supposed preponderance of ruptures over tubal abortions, and, like Dr. LEITH MURRAY, had found the reverse to be true. He had operated on patients with normal tubes but cystic ovaries, and considered ovarian disease as a factor in the etiology.

Professor DOUGAL said that he had no complete details of previous puerperal infection, but he had notes of cases with previous abortions. He did not agree with delay in operation in any type of case, and added that the symptoms in unruptured cases were quite definite. He agreed as to the large number of cases of ectopic pregnancy on the right side. He had operated on patients from whom the appendix had been removed previously. In some cases it was difficult to decide whether there was rupture of a tube or an abortion. He had not tried transfusing the patient with her own blood. He thought that the ovaries might sometimes be at fault.

Intraligamentary Fibromyoma.

Dr. LEITH MURRAY (Liverpool) described a case in which an intraligamentary fibromyoma had been removed from a patient aged 60.

The patient was married and had had three children, the last twenty-three years previously; she had ceased to menstruate at the age of 45. She had complained of pain and swelling in the abdomen for a year, and pain radiating down the right leg for four months. She had been confined to bed for five weeks when first seen. Laparotomy revealed a simple oedematous fibroid within the right broad ligament, lifting up the uterus. There was bullous oedema in the capsule, but no difficulty was experienced in enucleating the growth. The cavity was closed by sutures, and uninterrupted recovery followed. The specimen shown weighed 7 lb. 8 oz.

Dr. Leith Murray said that in his experience fibroids rarely caused symptoms in the menopause. In 540 consecutive operations for fibroids fourteen had caused symptoms in the menopause—that is, 2.6 per cent. Oedema of the fibroid was the usual cause of post-menopausal symptoms.

The PRESIDENT remarked on the small number of post-menopausal fibroids in Dr. Leith Murray's series. He had seen many cases of fibroids which had caused symptoms after the menopause. Mr. W. GOUGH remembered a case in which a fibroid in the menopause gave rise to symptoms, owing to shrinkage. It had previously rested in the abdomen, and when it shrank it fell into the pelvis, causing retention of urine.

Congenital Absence of Vagina and Cervix.

Dr. LEITH MURRAY also reported a case of congenital absence of the vagina and cervix.

A girl, aged 15, was sent to hospital with a history of abdominal pain lasting two years. The pain was colicky in character; it occurred every four to five weeks and lasted, on each occasion, about five days. She had a feeling of much weight in the pelvis at those times and frequently vomited. There had been no menstruation. Examination under an anaesthetic showed a vulvar depression, which just admitted the top of the index finger; this was all that could be found to represent a vagina. The vulva and the site of the urethral orifice were normal, and the breasts and pubic hair well developed—the former unusually so for her age. On bimanual rectal examination no thickening such as would suggest a vagina could be found. The uterus appeared to be normal in size and position; the right ovary was readily palpated. At a perineal exploratory operation the pelvic connective tissue between the urethra and the bladder in front and the bowel behind was easily opened by a finger, after incision at the apex of the vulvar depression. The lower pole of the uterus could just be reached, but was not brought down by volsellum lest injury to the bladder or bowel resulted. No suggestion of any vagina was found. The girl was kept in hospital for observation during her next periodic pain. The attack was an obvious colic, associated with abdominal pain, tenderness, and backache; it lasted four days and the patient was then very languid and tired. The uterus was removed, together with the left appendage. The fundus of the uterus was adherent to the bladder and there was a small quantity of black, uncoagulated blood in the pelvis. Both appendages were lightly adherent, particularly around the tubal ostia. It seemed likely that blood had on occasions been regurgitating into the peritoneum. Each ovary appeared normal and neither was enlarged; the uterine body was firm and not appreciably abnormal. On cutting across the broad ligaments, as soon as the uterine arteries had been divided, the uterus was completely released by finger pressure. The lower pole bore no resemblance to a cervix and was uncovered by epithelium. The sudden release of the uterus after section of the broad ligaments was most noticeable and quite unexpected; this may have been due, in some degree, to the preliminary exploration. The length of the uterus was 2½ inches. On opening the cavity about eighteen drops of dark fluid escaped; this was obviously under tension. The cavity thereafter was found to measure 1¼ inches; it ended blindly and the obturating bridge at its lower pole measured three-eighths of an inch. There was no evidence of dilatation of the Fallopian tubes. Sections showed no sign of cervical stroma or endocervix. The endometrium was practically normal throughout except at the lowest level, where a slight tendency towards polypoidal development was evident. The wall of the uterus and the obturating bridge appeared as a normal myometrium.

Dr. Leith Murray had failed to find in the literature any case exactly comparable to this. According to Keibel and Mall the tubar portion of the uterus formed the corpus uteri, and the utero-vaginal canal the cervix and vagina; the development of these two was therefore to some extent independent. It seemed remarkable, however, that the demarcation between the distal three-quarters and the remaining quarter of the whole uterine and vaginal tube should be so complete as was evident in this case.

Mr. STACY said he had reported an almost similar case to the Anatomical Society in 1924.

Adhesive Vulvitis.

Professor DOUGAL read notes of a case of adhesive vulvitis.

The patient was 36 years of age, married ten and a half years, and a nullipara. Menstruation had been normal. Eight years previously, during a severe attack of pneumonia, she began to complain of irritation in the neighbourhood of the vulva, and stated that the "vagina healed up." Intercourse had not been possible since, and recently she had had difficulty in micturition. Six years ago she had been curetted, and the adherent labial folds separated, but she had been no better. On examination the labia minora were found completely glued together in the mid-line, except at a point about the middle of the vulva, where a small opening, one-eighth of an inch in diameter, served for escape of menstrual blood and urine. Under an anaesthetic it had been found possible to separate the adherent folds without difficulty, and during separation a thin layer of desquamated epithelium was partially torn away, and remained stretched across the vulval opening. The area affected consisted of the inner surfaces of the labia minora and the folds about the clitoris. The surfaces were disinfected and separated by a dressing, but in a few days became adherent again, so the vulva was excised and the vaginal orifice well opened up, no labial surfaces being left in contact. Two months afterwards she was quite well, and there was no recurrence. Sections of the skin showed inflammatory changes in the deeper layers, and thickening and keratinization of the squamous-celled layers.

Professor PHILLIPS asked if Professor Dougal thought the infective agent was the pneumococcus. He himself had seen a case of pneumococcal endometritis in pneumonia. Professor DOUGAL agreed that the condition was probably due to the pneumococcus.

Foreign Body in a Pregnant Uterus.

Dr. LACEY reported a case of a foreign body in the pregnant uterus.

The patient, aged 28, with one previous instrumental confinement, had had amenorrhoea for two months. She said she felt a lump in the vagina, and tried to push it back with a crochet hook, which disappeared. She had pain in the lower abdomen the same night. On admission to hospital two days later she had a slight show, and a temperature of 100.6°, pulse 96. The os was closed; the uterus was three and a half to four months in size. She was x-rayed, and the radiologist reported the presence of a foreign body, presumably in the uterus, and no foetal parts. On the next day she aborted, her temperature being 101.6° and pulse 108. On the following day there was diffuse abdominal pain; the abdominal wall was tender and rigid, and there was slight distension. On laparotomy there was a small quantity of odourless pus in the abdominal cavity. The crochet hook was protruding through the

posterior wall of the uterus, and was firmly embedded against the sacrum. It was removed with little difficulty. The abdomen was drained, and the patient made an uninterrupted recovery.

The PRESIDENT inquired as to what action should be taken in these cases with regard to reporting them to the police. Dr. LEITH MURRAY said that he had had a case of premature twins in which he suspected criminal abortion. He had been advised to do nothing in the matter unless the patient died. Dr. BRIDE had removed two crochet hooks from the abdomen, one from the right kidney pouch and the other from the pouch of Douglas; in neither of these cases was the patient pregnant, though this was suspected. One of the cases was already in the hands of the police, but, when informed that the patient was not pregnant, they took no further action. Dr. CROFT had had a similar case, and he had removed the foreign body after the abortion.

Cystic Tumours of the Ovaries.

Miss NICHOLSON (Liverpool) described a case of cystic papillary tumours of the ovaries.

The patient, aged 44, married eighteen years, and a nullipara, complained of swelling of feet and legs for four months. She had always had scanty menstruation, and amenorrhoea during the last four months. Both legs and thighs, especially the right, were oedematous. A mass, from which the uterus could not be distinguished, was felt filling the pelvis, and rising as far up as the umbilicus. Laparotomy disclosed a large ovarian cyst filling the pelvis and lower abdomen; the bladder and coils of intestine were densely adherent to it. In freeing a small part of gut the cyst wall ruptured, and about a pint of slightly viscid straw-coloured fluid was evacuated. Multiple papillary growths were seen in this cyst, which was seen to be a loculus of a multilocular cyst. It was deemed impossible to remove the growth, so a small piece was excised for microscopic examination, the cyst wall was sewn up, and the abdomen closed. The patient made a good recovery. Microscopic examination of growth showed a simple papillary arrangement of cells, with marked myxomatous degeneration of the ends of many of the papillae. There was no evidence of malignancy. The patient was having *x*-ray therapy; the oedema had gone, and she was menstruating, but the abdominal tumour was only slightly reduced.

Miss Nicholson said that in her experience it was unusual to meet with such numerous and dense adhesions in cases of ovarian papillary cyst adenomata.

The PRESIDENT agreed that such dense adhesions were rare. He asked if there was any history of previous infection of the ovaries, suggesting that the adhesions might have been present round ovaries attached to the growth. He was doubtful as to the prognosis to give in these cases. He had recently seen a case on which he operated four years ago, in which the peritoneum was studded all over with small growths. The patient had had *x*-ray treatment, and had returned with two small recurrences apparently in the abdominal wall.

Professor DOUGAL recalled a patient on whom he had operated, and from whom Dr. Leith Murray had taken away a papilliferous cyst five years previously. He succeeded with great difficulty in removing another papilliferous cyst and the uterus, with good results.

Miss NICHOLSON said that the growth was apparently quite simple. There was no history of previous infection. She thought that the patient would have died if removal of the tumour had been attempted.

VERSION IN OBSTETRICS.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society, the President, Dr. E. RIVAZ HUNT, in the chair, Mr. H. F. SEYMOUR read a paper on version in obstetrics, the steps of Potter's method of version being demonstrated by lantern slides.

Mr. Seymour said that there was still a lamentable lack of hospital beds for obstetric cases for the reception of poor women whose homes were unsuitable for the conduct of labour, for the proper instruction of students and midwives, and for research work in this most important branch of preventive medicine. He traced the development of version through the centuries from the time of Soranus, the father of midwifery, and referred to the book of Eucharius Rösslin, published in Worms in 1513, and the lucid description of internal podalic version by Ambroise Paré in 1550. Smellie's work in England was described, and the later developments down to the time of Braxton Hicks, who introduced bipolar version. Dr. Seymour then discussed external version for rectifying a faulty lie before labour had started; bipolar version, a difficult manœuvre but useful in lateral or marginal placenta praevia for bringing down a leg for exercising pressure by means of the half breech; and internal podalic version, with special reference to the technique of Dr. Potter of Buffalo, New York. Mr. Seymour considered that Dr. Potter's system of internal podalic version was a beautiful example of the obstetric art, well worked out and conceived. It had the following advantages over the usual way of performing an internal podalic version: the very careful slow dilatation of the vaginal introitus and vagina; by bringing down both feet, instead of one, there was much better control; the rotation of the child so that each shoulder was delivered, in turn, as an anterior shoulder, saved lacerations of the perineum; leaving the head on the perineum, after the mouth was born, and delivering very slowly also tended to save the perineum. He was unable to agree, however, with Dr. Potter's too frequent use of the manœuvre, and said that it could not be right to deliver all women by version when the os was fully dilated, which would undoubtedly be meddlesome midwifery. He preferred to limit the use of internal podalic version to its positive indications—namely, transverse presentations; prolapse of the cord; in face, brow, and unreduced occipito-posterior presentations, when the head was not entering the pelvic brim well; in lateral or marginal placenta praevia, when it was the best mode of delivering; in cases of moderately contracted flat pelvis, when it was safer for the child than a high forceps delivery; and as a method of rapid delivery where indicated by maternal complications or foetal distress when the cervix was three-quarters dilated, the pelvis normal in size, and the head not engaged. When the head was fixed in the pelvic cavity, due to disproportion between it and the size of the pelvic cavity, it was necessary to deliver the after-coming head by means of forceps, and those designed by Dr. Piper of Philadelphia were recommended. These forceps were extremely long, the cephalic curve was that of a light Tarmier, and the shank was at least twice as long as that of other forceps; there was no shoulder, and the shank was so curved that the handles dropped below the patient's thighs. They rendered extraction very easy and were as useful in breech cases as after a version. Dr. Seymour considered that civilization had tended to make labour more pathological, and he wondered whether the increased athleticism of growing girls would in the future produce in women the male type of pelvis, with its obstetrical disadvantages. He thought that the accoucheur should mitigate suffering as far as possible. Before the os was fully dilated the only possible relief was to administer opiates; Dr. Fairbairn had recently appealed for the extended use of this treatment. Scopolamine-morphine narcosis was useful in some very nervous patients. If it was necessary to give an anaesthetic for the extraction of a tooth, surely it was good practice to alleviate thus the pains of the second stage of labour. Chloroform was the best anaesthetic for midwifery on the whole. There was no harm in gently easing the head over the perineum with the forceps, under anaesthesia, the utmost gentleness being used and the strictest antiseptic technique being employed. Where there was no contra-indication, and the patient was under chloroform, pituitrin would do the work of the forceps. When a woman of 44 or 45 years became pregnant for the first time the advisability of Caesarean section should be carefully considered. In the conduct of midwifery, while there should be no interference with the natural process of labour, yet everything possible should be done to make things easier and more bearable for the patient so long as her risk was not increased.

OSTEOMYELITIS.

AT a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on February 18th, the President, Mr. ANDREW FULLERTON, in the chair, Sir WILLIAM WHEELER showed a patient, aged 25, who had been operated on eighteen years previously for osteomyelitis of the lower third of the femur.

Sir William Wheeler said that he had removed the lower third of the femur by dividing it with a Gigli's saw above the disease, and by wrenching away the metaphysis at its

junction with the epiphysis. This operation had been performed before the publication of Sir Harold Stiles's paper on removal of the diaphysis of the long bones. He also showed lantern slides of the portion of bone removed, illustrating the anatomical perfection of the re-formed shaft. The patient had full movements of the knee-joint, and there was three-quarters of an inch shortening. At the time of operation there had been a sinus discharging in the popliteal space. Sir William Wheeler said that Stiles had advocated the operation of subperiosteal excision of the diaphysis, which sometimes included the whole shaft in all the long bones with the exception of the femur, but the present case made it clear that the operation could be performed on the femur with the same success, and that there was no fear of undue shortening. He had reported three cases of resection of the juxta-epiphyseal portion of the femur in 1913. The bone removed in the present case showed admirably the central focus and the osteoplastic periosteitis. The formation of the thin layer of porous bone, coupled with the presence of thickened periosteum, was responsible for the very important clinical sign seen early in these cases—namely, thickening. The pathology of this and allied conditions could be explained on an anatomical basis, and was in consequence simple. Three sets of capillaries met in the metaphysis of bones: (1) the end branches of the nutrient artery (diaphyseal group); (2) branches from the arteries supplying the joint entering the metaphysis (metaphyseal group); and (3) branches from the same source as (2) supplying the epiphysis (epiphyseal group) perforated the cartilage and anastomosed with the diaphyseal and metaphyseal vessels. The circulation through the cancellous spaces of the bone was slow, and this fact, combined with the free capillary anastomosis, made it obvious why the site was favourable for the deposit of a tuberculous embolus. A slight injury, breaking down some of the trabeculae of the cancellous spaces, might determine the onset (by setting free an embolus) of active tuberculosis. Once established, the disease was at first frequently central, and subsequently was carried by the Haversian systems through the compact bone to the periosteum. An osteoplastic periosteitis ensued, and a thin layer of new bone, very porous and delicate, was laid down between the thickened periosteum and compact bone. Finally, as caseation and liquefaction proceeded, an abscess formed in the soft tissues, and was followed by a sinus leading down to diseased bone. Many of the cases were probably of mild staphylococcal origin, and were not tuberculous. Sir William Wheeler thought that Stiles's paper was epoch-making, and had greatly simplified the teaching in connexion with osteomyelitis.

Mr. A. B. MITCHELL said that the restoration of the bone in this case had been remarkable. He thought that all surgeons were afraid of performing this operation on the femur, partly because of Sir Harold Stiles's paper on the subject, and partly because they feared that it would leave the patient with a short leg.

Mr. SETON PRINGLE said that he had seen this patient with Sir William Wheeler, and as a result had performed the operation three times since, and intended to continue its use. It was an operation which should only be employed in selected cases.

The PRESIDENT said that he had only performed this operation once, the patient being a girl with a suppurating sinus, when he had found the bone loose and had pulled it out. She had a severe attack of toxaemia. He thought that when curetting was tried in these cases a toxaemia resulted sometimes which turned the result of the case against the patient.

The Appendix Reflex in Migraine.

Mr. A. B. MITCHELL read a paper on the appendix reflex as a cause of migraine and other troubles. The paper was illustrated by reports of cases, and Mr. Mitchell stated that the condition had been relieved following the removal of the appendix even though this organ was not grossly diseased.

Mr. DENIS KENNEDY thought that some of Mr. Mitchell's cases were attributable to toxaemia. Arbuthnot Lane had said that practically every disease was due to intestinal toxaemia, and that for this condition the whole colon should be removed. Mr. Kennedy thought that most patients who suffered from appendicitis had constipation, and that after appendicectomy the constipation disappeared very rapidly. He believed that the appendix contained enough poison to produce most of the symptoms described by Mr. Mitchell, if it was not emptying itself into the colon as it should; in this type of case its evacuation was certainly imperfect.

Dr. G. E. NESBITT doubted the value of the appendix reflex, and added that if Mr. Mitchell's suggestions were correct, medical practitioners should advocate the advisability of removing the appendix in infancy as a routine measure. He thought that the occurrence of benefit after the operation reported by Mr. Mitchell was *post hoc* rather than *propter hoc*. He agreed that any foci of infection should be dealt with; if the focus was in the appendix this organ should be removed, but unless this was the case he would not perform appendicectomy.

Mr. R. A. STONEY had often encountered patients with obscure complaints, sometimes referred to the abdomen in the form of vague indigestion, and sometimes ascribed to migraine. In these cases at an operation appendix trouble was often found. After its removal improvement ensued in a large proportion of the patients. In such cases he thought that there was little more than *post hoc*, but there were some *propter hoc* cases. In doubtful cases where no other cause could be found, and where, after a careful examination, it was apparent that there were symptoms of trouble in the appendix, such as tenderness or thickening, it was certainly worth while operating and removing the appendix.

Sir WILLIAM WHEELER thought that Mr. Mitchell had made it clear that most of the patients who had come to him had had symptoms (even though remote) of appendicitis; some had had very definite symptoms. It was apparent to him that what Mr. Mitchell wished to emphasize was that in cases where the operation had been performed and the appendix had been found diseased the patient had greatly improved after removal. Mr. Mitchell had, he thought, proved that trouble in the appendix in a certain number of cases accounted for remote disturbances of a reflex or toxaemic nature.

The PRESIDENT regretted that Mr. Mitchell had not extended the scope of his paper, instead of singling out the appendix, since similar symptoms to those described by Mr. Mitchell might be caused by the gall bladder, which, when diseased, gave rise to all sorts of symptoms.

Mr. MITCHELL, in reply, said that he had meant to imply that it was possible for a patient to have a diseased appendix which might become rather easily overdistended, but still would have the power of emptying itself, and by doing so would not produce pain, but might give rise to severe nervous symptoms. This was not the case with all patients. Frequently patients had a movable or floating kidney which did not upset them at all, whereas in other patients this condition produced a curiously neurotic hysterical state. His patients had been under medical treatment for many years, and the reason for their ill health had not been found. In seeking a cause the abdomen should be considered very carefully, since a very large number of cases of chronic headache in women were due to a retroflexed uterus. He did not think that continued toxaemia could cause migraine and similar conditions, which were much more likely to be due to something which occurred suddenly. In cases in which the abdomen was opened, and the stomach was found to be healthy except for a somewhat thickened pylorus, a surgeon would think that the condition was a reflex one; he would look successfully for the cause lower down.

Dilatation of the Sigmoid.

Mr. DENIS KENNEDY showed a specimen of a dilated sigmoid taken from a woman, aged 55, who had been admitted to hospital with a provisional diagnosis of fibroid uterus. At the operation a huge sigmoid was found, with no constriction whatsoever below it. The patient had not suffered much pain, and there was no history of constipation; apart from a feeling of discomfort, she had complained of nothing, but had noticed the lump swelling for about twelve months. Mr. Kennedy had believed at first that he was probably dealing with a big mesenteric cyst.

The PRESIDENT thought this was a case of achylasia of the pelvirectal sphincter. It was possible for a similar condition to arise in the oesophagus and in the pelvic colon. If the pelvirectal sphincter was examined it would be found that its disposition was different from that of other portions of the intestine. It was possible, as pointed out by Hurst, to have achylasia of the pelvirectal sphincter and also achylasia of the anus. It might be possible to cure patients of this condition by stretching the pelvirectal sphincter and to avoid such a big operation as was necessary to take away such a large amount of the patient's intestine as Mr. Kennedy had had to remove. The President related a case in which this had been done with great success.

Mr. A. CHANCE considered the parallelism between achylasia of the oesophagus and ileopathic dilatation of the sigmoid colon due to achylasia of the pelvirectal sphincter of the greatest importance. He had effected cure in a case of achylasia of the oesophagus by digital dilatation of the cardiac end, and it was now well known that these cases yielded successfully to digital or instrumental dilatation. If the parallelism were true there was every hope that by dilatation of the pelvirectal sphincter cases of ileopathic dilatation of the colon, formerly so intractable to treatment, could now be cured.

Mr. C. J. MACAULEY thought the condition was undoubtedly achylasia of the retrosigmoid sphincter; the responsibility of this condition for Hirschsprung's disease had been suggested some years ago by the Mayos. It seemed to him that, although dilatation of the rectal sphincter in a child might be comparatively easy, it would be very difficult in an adult.

Mr. J. H. HAYDEN was at present treating a case of achylasia, and had found the greatest difficulty in dilating the lower end of the oesophagus at the first attempt. The patient obtained some relief after the first dilatation, but was now so ill again that it had been necessary to pass a tube several times during a period of seven or eight weeks. Recently, however, the patient had gained 2 st. in weight.

AT a meeting of the Nottingham Medico-Chirurgical Society, on January 20th, Dr. J. C. BUCKLEY gave his presidential address on the early diagnosis and treatment of syphilis. Dr. Buckley commented on the importance of early diagnosis and treatment of a disease so prevalent and so disabling, since thus the most severe results could be avoided. He laid stress on the necessity for the examination of any suspicious sore for the spirochaete, and gave details as to the technique of the examination by dark-ground illumination, mentioning that this should precede the application of any antiseptic to the sore. By this examination a positive diagnosis could be made before the Wassermann reaction became positive. He dealt briefly with the other tests for syphilis, and then detailed the routine treatment as administered at the Nottingham Venereal Diseases Clinic. The drugs in use were (1) novarsenobillon for intravenous, and (2) bismostal for intramuscular injection. The technique of the intravenous injection was described, and the complications of the treatment were detailed, the chief being local sloughing from faulty injections, dermatitis, and jaundice. In dealing with jaundice, the lecturer mentioned that since the van den Bergh reaction had been extensively used at the Nottingham Venereal Diseases Clinic the incidence of jaundice had been reduced by 50 per cent.

AT a meeting of the Sheffield Medico-Chirurgical Society, on February 24th, Professor ARTHUR HALL gave a lecture on the reflexes which determine and control posture. He defined the function of the low level reflexes, situated between the mid-brain and the medulla, as being the control of certain automatic actions, among which might be classed posture. He dealt first with those reflexes which helped to maintain an animal in a fixed normal position, and which he called "stance reflexes"; he then considered those which enabled an animal to reassume the normal position when this had been upset—the "righting reflexes." By means of a series of models Professor Hall demonstrated the various attitudes and postures which an animal might be made to take up in various experiments, and showed very clearly the effect on the limbs of the varying tonicity of neck muscles. A series of cinematograph films of dogs and other animals was shown, illustrating vividly the actions which were called into play by the "righting reflexes." A particularly interesting film showed the slow rotation of a duck's body through an angle of 180 degrees, during which the animal was seen to keep its head in a fixed position relatively to the horizontal; when a complete revolution had been made the bird suddenly reversed the position of its head, thus bringing it back to the same relative position in space.

JAMES MACKENZIE INSTITUTE.

ON February 22nd Dr. A. ROWAND read a paper on oxaluria, with special reference to its occurrence in children. He pointed out that the term "oxaluria" was of very vague significance. It might be applied generally to the presence of calcium oxalate crystals in the urine, or limited to cases in which they occurred in large numbers and persistently; it had been suggested that the term should be used to signify excess of oxalic acid excretion in the urine; and it was applied to conditions of impaired health associated with oxalate crystals in the urine. Oxaluria as a condition with clinical symptoms was first described about the middle of last century. Golding-Bird made an exhaustive study of the subject, and the symptoms he described have been handed down, more or less fully, from textbook to textbook, the majority of the writers having probably repeated the views of their predecessors without independent investigation. Dr. Rowand gave a chronological survey of the opinion expressed in prominent clinical textbooks from the days of Golding-Bird to the present time, showing that the tendency had been to put less and less weight on any possible causal connexion between the oxalates and the general symptoms, and to regard both as having a common origin in some disorder of metabolism. The possible sources of oxalates were various, and therefore it could not be said that the presence of oxalate crystals in the urine indicated one definite error of metabolism. Moreover, there were individual idiosyncrasies. Of two individuals on the same diet one might show a large deposit of oxalates in the urine, while in the urine of the other no oxalates were found, and this might be the case even when substances rich in oxalic acid, such as rhubarb, were being taken. Again, the occurrence of haematuria was apt to be regarded lightly if many oxalate crystals were present in the urine, but probably in a healthy urinary tract irritation by the crystals was unlikely to cause such a serious symptom. All writers laid stress on the danger of the formation of calculi, but this did not solely depend on the amount of calculous material in the urine. Benjamin Moore showed that in the core of a calculus some colloidal substance was present in association with the calcium oxalate. Dr. Rowand did not suggest that the occurrence of oxalate crystals in the urine of children was of greater significance than in the case of adults. But the large number of urines of children who came to the James Mackenzie Institute for periodic observation provided a valuable field for study. The urines were examined at every visit, and as they were voided at the institute it would be possible to determine the extent to which the presence of oxalate crystals in fresh urine was associated with symptoms of impaired health. The investigation had been in progress for about a year. Fourteen per cent. of the urines had shown oxalate crystals as against the 30 to 40 per cent. commonly stated as applicable to urines. This lower percentage might be due to the fact that all the urines were freshly voided, and that a large proportion of the children were in good health. In about 20 per cent. traces of protein had been associated with the oxalates. In a very small number of cases were red blood cells found. There was some ground for believing that not only the number but the nature of the crystals might be of special significance. Refractile particles and minute octahedra would appear to be especially associated with symptoms of disordered metabolism and impaired health. But the investigation had not gone far enough to justify any definite opinion on this matter.

Reviews.

ON MEDICAL CASE-TAKING.

EVERY teacher of medicine requires a framework on which to lay out the rudiments of instruction for those students who are beginning their clinical work. The small volume[1] by Professor KENNEDY represents the framework which he has found useful at Cardiff. At the outset we are struck by the way in which this book differs from most others of the same kind. As a rule these guides to clinical examination partake of the nature of railway time-tables in which the student traces out particular systems of the human body as a prospective traveller traces out his train through the pages of *Bradshaw* to its destination. Professor Kennedy does not provide the student with a guide of this sort; the student is not asked to sit book in hand with one finger following down the page a list of questions and with the other hand recording the patient's answers or his own observations. He would appear to intend his book to be read away from the patient's beside and left at home. It is interesting enough to be so used because it is concerned more with principles than with details. The first two chapters deal mainly with history-taking, and this part is not unduly laboured, as is too often the case in modern teaching, for in practice both patient and student are apt to exhaust themselves at the game of cross-questions and crooked answers. Professor Kennedy realizes that the amount of exact information a sick man can give about his history is severely limited, and he instructs his students to stick to points on which the information of the patient and his family may be expected to deserve attention and prove enlightening.

The kernel of the book is contained in Chapter III. The importance of looking at the outside of the patient before going on to speculate on his inside has rarely been more deftly emphasized. Hippocrates is obviously the inspirer of this chapter, in which his description of the facies of impending death is given verbatim. And so, piecemeal, the student is encouraged to survey the "picture" of his patient before proceeding to the physical examination by palpation, percussion, auscultation, instrumentation, and chemical and biochemical analyses.

In the later sections, where physical examination is described, the author is content with brief rules and possibly inadequate explanations. Still, there are other books to which the student can turn for more detailed accounts of the phenomena he may encounter. A bulkier book might prove far less readable and therefore less instructive. But the explanations of auscultation surely need to be more explicit. Professor Kennedy partly disarms this criticism by saying in his preface that the student is assumed to have acquired some preliminary knowledge of physical signs and laboratory methods before he begins clerking in the wards, but in a book which makes room for details of a chemical test for free hydrochloric acid in vomit some explanation of the exotic terms used in pulmonary auscultation might well be afforded. Speaking of terms and their meaning, we wonder when lividity first began to imply "cyanosis combined with pallor"; there is authority for the meaning "black and blue," but surely not for "white and blue."

However, we feel certain that as an adjunct to the preliminary course which the students receive this thoughtful book will meet with wide appreciation.

It is interesting to contrast with Professor Kennedy's concise remarks on history-taking a book[2] recently written by Dr. JAMES A. CORSCADEN of Columbia University, which is devoted entirely to the subject of taking and recording patients' histories. The first impression the book gives is that undue attention is paid to the patient's own analysis of his or her (the book is mainly gynaecological) disordered feelings. Then there occurs the sentence "the patient must be met on common ground of language and vocabulary," and light dawns. It has to be borne in mind that the official language of the United States is not the native language of large numbers of patients coming under treatment, nor is it by any means invariably that of the doctors. Thus it is not so surprising to find Part II consists of "practically a complete list of terms employed in describing human discomfort together with a list of such circumstances connected with the life of the patient as will aid in the diagnosis and management of his illness."

A book like this brings home clearly how far the difficulties the student encounters when he begins clinical medicine depend upon the use of foreign or archaic words varied by the intervention of a few modern bastards pretending to Greek or Latin parentage. Some will long for a return to the direct speech of the Anglo-Saxon leechdoms.

[1] *Medical Case-taking.* By Alex. Mills Kennedy, M.D.Glas. London: Edward Arnold and Co. 1926. (Cr. 8vo, pp. 148. 5s. net.)

[2] *History Taking and Recording.* By James A. Corscaden, M.D. New York: Paul B. Hoeber, Inc. 1926. (Post 8vo, pp. vii + 78. 1.50 dollars.)

CLASSIFICATION OF CEREBRAL GLIOMAS.

DR. PERCIVAL BAILEY and Professor HARVEY CUSHING have issued an important volume, *A Classification of the Tumors of the Glioma Group on a Histogenetic Basis, with a Correlated Study of Prognosis.*[3] These tumours represent about 40 per cent. of all intracranial neoplasms, and their microscopical appearances differ widely. Further, the results after operative treatment vary remarkably in a manner which has not hitherto been adequately explained. The authors therefore undertook an investigation in order to discover the basis of the structural variations of these tumours and the significance of such variations in relation to the outlook after operative removal; in other words, in relation to the malignancy of the growths. They first addressed themselves to the detailed study of the structure of gliomatous tumours removed at operation or necropsy. They evolved a classification of these tumours based upon their cellular structure in relation to the normal histogenesis of the brain. They identified among the tumours types corresponding to practically every variety of normal brain cell, of which they distinguished twenty types arising at progressive stages in the development of the central nervous system. An account of the histogenesis of the brain, of the staining methods employed, and of the morphology of the normal cellular types is followed by a description of the histological appearances of the tumours, which occupies a large part of the book. The microphotographs which illustrate these sections are profuse and excellent.

The authors then turn to the second part of their investigation. Independently of the histological study a statistical inquiry was undertaken in regard to the total length of life from the date of onset of symptoms in 414 cases classified as glioma in the records covering a period of twenty-two years (1903 to 1924) of the Johns Hopkins and Peter Bent Brigham Hospitals. For various reasons 160 of these cases were rejected, and the remaining 254 were examined by modern histological methods and classified in the manner indicated. The general result of the inquiry showed that the tumours whose cellular structure reproduced the more primitive and less differentiated cells of the developing nervous system were much more malignant than those composed of more highly differentiated cells. Tumours of the latter type may be of extremely slow growth, and, unless their site is such as to cause obstructive hydrocephalus, may remain latent for many years.

The importance of this research in regard not only to prognosis but to the indications and extent of operative treatment is clearly very great.

[3] *A Classification of the Tumours of the Glioma Group on a Histogenetic Basis, with a Correlated Study of Prognosis.* By Percival Bailey and Harvey Cushing. London: J. B. Lippincott Company. 1926. (Med. 8vo, pp. 175; 108 illustrations. 21s. net.)

JOHNSTONE'S "MIDWIFERY."

THE fifth edition of Professor R. W. JOHNSTONE'S now well known *Text-Book of Midwifery*[4] fully maintains the reputation it has deservedly acquired. It is compact, clearly written, and its teaching eminently sound and practical.

The reviewer, however, usually feels that he has to play the part of critic, and from this standpoint the impression given by this book is that its lay-out is rather too much on traditional lines. Though our conception of midwifery has been revolutionized in the last generation, this book does not fully express that change. It seems to be the old

[4] *A Text-Book of Midwifery for Students and Practitioners.* By R. W. Johnstone, C.B.E., M.A., M.D., F.R.C.S.E. Fifth edition. Edinburgh Medical Series. London: A. and C. Black, Ltd. 1926. (Cr. 8vo, pp. xxviii + 508; 257 illustrations. 15s. net.)

design brought up to date where required by advances in science and practice. The four or five pages on ante-natal supervision, in which the form used at the Edinburgh Maternity Hospital is very properly included, might be enlarged in another edition in order to convey the great place this supervision now takes in practice. To make room the amount of space given to details and illustrations of rare forms of pelvic contraction might perhaps be reduced; one is described as an obstetrical curiosity, "there being only some dozen specimens known." Apart from what is an impression and no more, we have nothing but praise for the amount of matter compressed into the 500 pages of this book. It is full and brimming over.

Of its eight sections, the first four roughly cover the physiological and the other four the pathological side of obstetrics. The illustrations are numerous; they are for the most part line drawings that teach their lesson well, but there are also some excellent photographic reproductions, and one or two beautiful coloured pictures.

TRAINING BOY SCOUTS.

THE efficiency of the admirable organization that sprang from the fertile brain of Baden-Powell must of necessity depend upon the qualities of the scoutmasters, those grown-ups who supervise the activities of the boys and are to them outward and visible standards of what they wish to be in youth and later years. So far the movement has largely depended for the quality of its scoutmasters upon the training these have received at public schools and universities; and it would appear that there has been little or no disappointment in the quality that has been obtained. But since the work that they have to do is in reality a highly special type of educational work, it is logical that there should be provided for them some instruction in the basis of modern educational methods as formulated in recent psychology. Dr. F. W. W. GRIFFIN has done this for the scoutmaster in a little book entitled *The Quest of the Boy*.[5] In it he takes his readers through the whole scheme of psychological training. Beginning with the special senses, and the bearing of these on games and tests, he proceeds, through the consideration of association and mental concentration, to the unconscious self. For the explanation of this conception he gives a rough diagram of a steam lorry, in which the several parts suggest organs of the body, its instinct and its consciousness. Then these instincts are dealt with severally and very faithfully; so also the emotions; and, finally, there are chapters on conscience and conduct and the dawn of manhood.

It is no easy matter to write a book of this sort. It might have been so psychological as to be unintelligible to the ordinary reader. It might have been so "plain spoken" in the matter of certain theories as to be nauseating, and the last book that should be put into the hands of scoutmasters, who are very human. And yet it is a book that needed writing. The psychology of behaviour is too well known and too important to be overlooked in this regard, and it is well that it has been dealt with by one who is a doctor, one with knowledge of men and emotions, one who is in keen sympathy with the boys' movement, and one who takes a high standard. In the introduction we read: "A man who is called to serve the boyhood of his generation must . . . fire his life with the Good, the Beautiful, and the True, so that another may catch the torch from him, and illumine a little more brilliantly the darkness of this troubled world. . . . He must charm to harmlessness the wild beasts of ignoble earthly lusts; he must be a trumpet call to noble thoughts and deeds. . . ." Dr. Griffin has done his work well.

X-RAY DIAGNOSIS.

IN a book entitled *X-Ray Diagnosis*[6] Mr. J. MAGNUS REDDING endeavours to accomplish what others have attempted before—namely, a survey within a short space of all the varying conditions in which a radiographic examination may be of diagnostic assistance. He has succeeded as others have succeeded, and failed where others have failed, for the ground to be covered is so vast that in no textbook of this size is it possible to succeed beyond a certain fairly well defined point. A number of conditions are adequately considered and illustrated; the vast number can be only casually mentioned.

In his preface the author states that he hopes that the book may be useful to post-graduates preparing for the diplomas in radiology. It is to be feared, however, that this kind of book, attempting so much, fails in this respect; it may be of use to the general practitioner and to students, but cannot be considered adequate as a textbook for special examinations. A further criticism may be made as regards the illustrations: in many the great reduction in size from the original negatives means that essential detail is lost; in addition to this, very many show still more loss of detail and quality owing to imperfect reproduction. Recognizing these limitations, however, there is much to be praised in the general arrangement and in the manner of presentation of the subjects. The author has very wisely left out technique and the usual lengthy and useless descriptions of apparatus. A short introductory chapter is followed by one on the normal appearance of bones and joints; this includes ossification and developmental abnormalities. Four chapters on abnormalities of bones and joints follow. To the thorax five chapters are allotted, and to the alimentary tract three. Other conditions each with its own chapter are the accessory nasal sinuses, the central nervous system, the genito-urinary system, and the biliary tract, and the book concludes with an index.

Generally each condition dealt with is given a paragraph of greater or shorter length, the condition described being indicated at the commencement of such a paragraph by larger lettering, which makes it very easy to find the exact thing desired.

THE MEANING OF DISEASE.

DR. WILLIAM A. WHITE, the psychiatrist and neurologist, has written a book on *The Meaning of Disease*.[7] It is described as an inquiry in the field of medical philosophy, and is on the same lines as some of the writings of Dr. F. G. Crookshank, to whom reference is made. Dr. White maintains that as a result of specialism, and the analytical rather than the synthetic method of thought engendered thereby, there is not any adequate theory of disease at the present time; he therefore proceeds to examine some fundamental principles with the object of solving by the synthetic method many problems which have long resisted the analytical method. Health and disease are regarded as relative terms, and as health, like disease, is not a unitary but a relative concept, we may come to speak of healths as of diseases. He follows the late Sir Clifford Allbutt in pointing out that disease is not a fixed morbid entity, but the reaction of the individual to a noxa; he defines disease as a failure, more or less complete, in adaptation to external or internal circumstances, and describes the symptoms as the evidence of this contest, and, to a large extent at least, directly or indirectly signs of the way in which the organism is resisting destruction and combating death. He considers that the interpretation of the language of the patient is an important way of gaining knowledge of his unconscious motives, and discusses the difference between functional disorder and organic disease: when function which has not been "structuralized" becomes disordered there is functional disease, and, since this disordered process is reversible, recovery is possible, but the treatment should be, though it often is not, carried out by approach to the psyche. When function has been structuralized and becomes disordered there is gross organic disease, and, as organic lesions are in Dr. White's view irreversible, any recovery is due to a process of readjustment and compensation on the part of the remaining organs or tissues.

This work, with many illustrations from other works on psychology and philosophy, deals with an aspect of medicine which, though difficult, is of interest and of educational value.

[5] *The Quest of the Boy: A Study of the Psychology of Character Training.* By F. W. W. Griffin, M.A., M.D., Assistant County Commissioner (London), Boy Scouts. London: The Faith Press, Ltd. 1927. (Cr. 8vo, pp. xi + 148; 3 figures. 1s. 6d.)

[6] *X-Ray Diagnosis.* By J. Magnus Redding, F.R.C.S. London: Cassell and Co. 1926. (Med. 8vo, pp. xvi + 228; 80 plates. 21s. net.)

[7] *The Meaning of Disease: An Inquiry in the Field of Medical Philosophy.* By William A. White, A.M., M.D. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1926. (Cr. 8vo, pp. 220. 13s. 6d. net.)

NOTES ON BOOKS.

In *Food Values and Recipes for Diabetics*[8] Drs. S. MILLER and F. B. SMITH have compiled a series of tables to assist diabetic patients to maintain accurate control of their diet. The carbohydrate, protein, and fat proportions of various foods and drinks are stated, and suggestions are given for combining the different ingredients in a meal, and for preparing composite dishes.

The second edition of Dr. LEONHARD JORES'S book on the application of anatomical principles to various important diseases[9] is almost double the size of the first, which was published in 1912 and has been out of print for nearly six years. The book consists of an introduction and twelve sections, dealing respectively with disturbances of nutrition and metabolism, endocrinal changes, local circulatory disorders, inflammatory and infectious diseases, diseases due to animal parasites, post-infective conditions and intoxications, the action of foreign bodies, regeneration and healing of wounds, alteration in the form and position of organs, blood vascular disease, tumours, and malformations. An appendix is devoted to chondrodystrophy, osteogenesis imperfecta, and extrauterine pregnancy. The text is accompanied by numerous excellent illustrations, many of them in colour.

The increase in the numbers of the medical profession is again reflected in the *Medical Register*[10] for 1927, which contains 52,614 names as compared with the corrected figure of 51,738 for the previous year, and with 50,035 for 1925. During the past year 2,120 names were added; in 1925 the additions numbered 2,570; and in 1924 (which marked the summit of the exceptional post-war period) there were 2,796 new entries, almost exactly twice the figure for 1914. Of the new names in the present issue 1,059 were registered in England, 527 in Scotland, and 361 in Ireland; 165 were colonial, and 8 foreign. The number removed from the *Register* was 1,159, as compared with 947 and 978 in the two previous years. Of these 1,159 names 828 were removed on evidence of death; 328 were removed because of failure to reply to the inquiries of the Registrar as to cessation of practice or change of address; and 3 were struck off under the disciplinary powers conferred on the General Medical Council by the Medical Act of 1858. As the interest of these official volumes is, for our present purpose, mainly numerical, one further figure may be quoted: the total number of persons registered from the beginning of medical registration in 1858 up to January 1st, 1927, was 100,430.

The *Dentists Register*[11] for 1927, which corresponds in form and arrangement, though not in bulk, with the *Medical Register*, contains 14,395 names, being an increase of 196 over the figure for the previous year. The entries are grouped under the headings "United Kingdom Dentists," "Colonial Dentists," and "Foreign Dentists." A useful feature of the volume is the local list of names appearing in the *Dentists Register*, arranged under the several postal sub-districts of London and under the towns respectively, of England, Wales and Monmouthshire, the Channel Islands, Isle of Man, Scotland, Northern Ireland, Irish Free State; Europe, Asia, Africa, America, and Australasia; and the Services. During the year under review 380 dentists were registered with qualifications, and 43 under the provisions of the Dentists Act of 1921. Of the total names in the present edition 6,649 (45 per cent.) are registered with medical, surgical, and dental qualifications, and 7,926 (55 per cent.) are registered under the provisions of the Dentists Acts of 1878 and 1921.

The General Medical Council has also issued a volume[12] containing the lists of medical and dental students registered in 1926. Each entry indicates the preliminary examination in arts and pre-registration examination in elementary science passed by the student, the date of registration, and the date and place of commencement of professional study. The medical students registered last year were 1,260, as compared with 1,070 in the previous year; these figures contrast sharply with the unprecedented total—3,420—in 1919. England again heads the list with 577, though on four occasions in the past ten years Scotland has had the largest entries. Registrations of dental students numbered 229, as compared with 191 in 1925.

[8] *Food Values and Recipes for Diabetics.* By S. Miller, M.D., and F. B. Smith, M.D. Second edition. Harrogate: Duchy House. 1927. (Post 8vo, pp. 23. 2s. 6d.)

[9] *Anatomische Grundlagen wichtiger Krankheiten.* Von Dr. Leonhard Jores. Zweite Auflage. Berlin: Julius Springer. 1926. (Sup. roy. 8vo, pp. vii + 525; 365 figures. Paper, R.M.48; bound, R.M.51.)

[10] *The Medical Register.* London: Published for the General Medical Council by Constable and Co., Ltd. 1927. (21s.)

[11] *The Dentists Register, 1927.* London: Published for the Dental Board of the United Kingdom by Constable and Co., Ltd. 1927. (12s.)

[12] *Medical and Dental Students Register, 1926.* London: Published for the General Medical Council by Constable and Co., Ltd. 1927. (7s. 6d.)

Mr. LUDOVICI tells us in his book *Man: An Indictment*[13] that the modern Englishman suffers from overmuch humour, and that this is one of the signs of his degeneracy. Perhaps the attitude of the author towards humour accounts for the boredom we experienced in trying to read his book. Mr. Ludovici has an idea which, with a little more humour and at considerably less length, might have been expounded in an interesting manner. He thinks that modern man, especially the Englishman, is degenerating, and he finds a sign of this degeneracy in the claim for greater power made by women. He marshals an array of arguments to show that the feminists have no right to suggest that the mental capacity of women has increased. For him the apparent dominance of women is to be attributed to the degeneracy of man. We are led through lengthy tirades against the Christian religion, especially puritanism, against the Englishman's shamefacedness about the act of procreation, against miscegenation, and against the neglect of breast feeding. We are advised to consider the eugenic possibilities of inbreeding, and even of incest, and are recommended to study the art of correcting faulty co-ordination of our bodies. Throughout it all we seem to trace the influence of the author of the *Will to Power*. We feel sure that Nietzsche would gladly have lent a hand to help his stumbling disciple on his way.

The British Journal Photographic Almanac[14] for 1927 includes a pictorial supplement, with reproductions of notable photographs taken during the previous year. It is stated that photographs, whether previously exhibited or not, will be welcomed from all countries. The editor, Mr. GEORGE E. BROWN, contributes some practical notes on the use of the reflex camera, with illustrations showing the advantages of this type of camera for various subjects. Mr. T. L. J. Bentley describes the preparation and arrangement of snapshot photographs, with suggestions as to trimming, mounting, and framing. Other articles deal with developing and printing from the standpoint of the dispensing chemist, and the use of chlorobrom papers. The book contains the useful features of previous issues, including an epitome of progress, various tables and formulae, miscellaneous information, and a directory of photographic societies; it will certainly be as popular as its predecessors.

[13] *Man: An Indictment.* By Anthony M. Ludovici. London: Constable and Co., Ltd. 1927. (Demy 8vo, pp. xix + 374. 14s. net.)

[14] *The British Journal Photographic Almanac, 1927.* Edited by George E. Brown, F.I.C., Hon. F.R.P.S. London: H. Greenwood and Co., Ltd. 1927. (5 × 7, pp. 818; illustrated. Paper, 2s.; cloth, 3s.)

PREPARATIONS AND APPLIANCES.

Electric Light Fittings.

THE development of the high efficiency electric glow lamps during recent years has opened up special problems in the use and fitting of these lamps. There is no question of their economy. For a given current their light is greatly superior to any other previous type of electric light. But the intrinsic brilliancy of the lamp—that is, the intensity of the light at its source—renders them dangerous unless they be properly fitted so that the filament is not seen naked by the eye. Exposure to the naked filament seriously interferes with comfort, and actually the visual performance of the eyes is reduced so that the benefit of the new lamp is lost. The lamp must be either so high that it is out of the line of sight, or it must be surrounded with a glass bowl or similar device which, by greatly diffusing the luminous area, diminishes its brightness to a comfortable value. The bowel then becomes the effective source of light, and its large size renders the shadows softer than those given by the bare source. The production of opal bowls for this purpose has been greatly stimulated, and recently the Illumination Research Committee of the Department of Scientific and Industrial Research[1] has investigated and reported on the effect of these fittings, measuring by appropriate means the surface brightness of the bowls. The work was carried out at the National Physical Laboratory. Eighteen different patterns were tested. They are reported to come out well from the tests, since the glass is uniform so that the light is smoothly diffused. There are two main patterns. A bowl, like a pudding basin, suspended by the rim, the lamp being hung within the bowl; in this way the light is reflected upwards to the ceiling, and passes through the opal glass of the bowl. The tests only concern the light that passes through the bowl. The second class of fitting is an enclosing globe, round or squat as may be. The light from this source is mainly that which is directly transmitted through the

[1] *Surface Brightness of Diffusing Glassware for Illumination.* By C. J. W. Grieveson, M.A., B.Sc. London: H.M. Stationery Office, Kingsway, W.C.2. 1926. Price 9d. net.

glass, but there is also internal reflection downwards from the upper covering of glass, and there is a sufficient illumination of the ceiling. The advantage of the closed globe over the open bowl lies in the fact that the globe does not lose efficiency when dust collects upon the upper surface; whereas the bowl, unless frequently cleaned, becomes a dust accumulator. Neither of these points, however, comes into the matter of this test. The conclusion is that the samples submitted for the most part did secure an even and therefore comfortable diffusion of the light. With equal lamp power it would appear from the figures that the closed globe gave a higher surface brilliance possibly because the completeness of the globe allows a thinner glass to be used.

Models of the Labyrinth.

Mr. A. H. CHEATLE, C.B.E., F.R.C.S., and Mr. V. E. NEGUS, M.S., F.R.C.S., have made models for the purposes of investigating labyrinthine diseases and for teaching students. They are double natural size and are made of Wood's fusible metal, which is sufficiently strong for ordinary purposes; the ampullary ends are painted in different colours in order to show them up; it is easy to make reproductions of the semicircular canals and cochlea from one petrous bone, and it is also easy to make models of the labyrinth if accuracy is not desired. But the intention has been to produce a model which would be properly orientated. As previously described (*Proceedings* of the Royal Society of Medicine), the method used was to fix a hollow tube between the internal auditory meati of a dry skull, and to hold this hollow tube in place by means of a rigid frame, which had bars clamped on to the side of the skull in such a way that the lower edge of each bar coincided with the Frankfort plane; that is to say, the upper margin of the bony external auditory meatus and the lowest point of the orbit. Metal was run through the foramen ovale of one side to fill the cochlea and semicircular canals of that side and to pass across the hollow tube to the opposite labyrinth, which was also filled, the hollow tube being rigidly held in place by cement. The next step was to remove the bone and to extract the complete model in one piece. The casting presented considerable technical difficulties, which were overcome by Mr. Shaw, who managed to produce an intact model at the Royal Dental Hospital. Enlargements were then made to double size, not by a modelling machine, as had been hoped, but by free-hand work. The models were made in silver by Mr. Thomas, seal engraver and medallist, who exercised extreme care in getting details accurate and the orientation of the canals perfect. Having secured the enlarged model, it was then necessary to arrange for reproduction in mass. This again caused considerable delay, as it was difficult to find anyone who could undertake the work. Success has been attained, however, by Messrs. Gerrard, furriers and naturalists, who made piece moulds and cast the two labyrinths together in Wood's metal. The original frame was made by Messrs. Mayer and Phelps, and they have made head frames with a pointer to lie parallel with the Frankfort plane in such a way that when the frame is on the head the labyrinth lies in correct orientation in all respects. The patient's head can then be put into any position and the exact relations of each of the canals are seen; rotation and caloric tests can be carried out with the frame in position. It must be remembered that there may be slight variations in the inclinations of the canals in individual skulls. The whole apparatus of enlarged models and head frame, "King's College Hospital" pattern, can be obtained from Messrs. Mayer and Phelps, 59, New Cavendish Street, W.1.

SCIATICA: ITS CAUSE AND TREATMENT.

LECTURE BY PROFESSOR PUTTI.

LAST week Professor VITTORIO PUTTI, director of the Istituto Ortopedico Rizzoli, Bologna, delivered the Lady Jones Memorial Lecture in the University of Liverpool. A large and appreciative audience listened for an hour and a half to an address in fluent English on "New conceptions in the pathogenesis and treatment of sciatica."

After discussing the history of the complaint, Professor Putti passed on to a survey of its prevalence in all classes and its importance as a clinical entity. It was, he said, always a syndrome secondary to some other pathological condition, and after giving the classification he preferred—namely, peripheral and central—he went on to say that his remarks would be confined to what had hitherto been regarded as primary or idiopathic sciatica. He dealt with the recognized signs and symptoms, laying stress on the position adopted by the patient, the loss of ankle-jerks, and Lasègue's sign. This type of sciatica commonly occurred after some slight chill or similar exposure, a point which had some bearing on his conception of the etiology. Professor Putti then briefly described the anatomical relations of the nerves entering into the composition of the great sciatic, emphasizing the large part played by the fourth and fifth lumbar roots. Mention was made of sacralization of the fifth lumbar vertebrae and the part played by this condition in simulating sciatica. Some excellent radiographs were shown of unilateral and bilateral variation. He demonstrated the path traversed by the lumbo-sacral plexus and recalled the work of Sicard in dividing the fibres into the following sections: before leaving the canal, between the canal and the plexus, in the plexus, and after the plexus.

"Neurodocitis."

He then laid stress on that part of the nerve in the intervertebral foramen, and said that he wished to coin a word, "neurodokon," for this part—a word which he applied to any nerve contained in an osseous or fibro-osseous canal, calling inflammation of this part "neurodocitis." By means of instructive diagrams he showed that the relative sizes of the five lumbar intervertebral foramina decreased from above downwards, while their length and the size of their contents increased. He recalled the boundaries of the intervertebral foramina, drawing particular attention to the proximity of the articular processes and facets. By means of a further diagram the arrangement of blood vessels in a plexus around the foramina was well demonstrated, and diagrams taken from actual *x*-ray photographs showed that variations in the plane of the articular facets (from the sagittal to the coronal) would materially affect the "neurodokon." An arthritis of the intervertebral articulations, on account of small osteophytes, oedema of the soft tissues, or congestion of the plexus referred to, would cause pressure on the nerve and consequent pain.

Diagnosis.

Any arthritis calls forth in response a reflex spasm of the surrounding muscles which is protective in nature. This should always be looked for in cases of sciatica, and in some cases was so marked as to give rise to a scoliosis which had been called by various authors "sciatic scoliosis." This might be homolateral, contralateral, or alternating, the explanation being that in the homolateral cases spasm of the muscles of the same side drew the body over, in the contralateral cases muscles of the opposite side contracted to relieve (by opening out) the intervertebral foramina, and that in the alternating cases the arthritic condition was bilateral and the relief of the "neurodokal" pressure was obtained by muscle spasm, first on one side and then on the other. The presence of the arthritis was shown by haziness of the articular surfaces, by increased density of the neighbouring bones, or even by osteophytic outgrowths. Narrowing of the intervertebral foramen could be ascertained by radiography, but for this purpose good prints and stereoscopic views were absolutely essential.

Treatment.

After briefly surveying the methods in general use for the relief of sciatica, Professor Putti indicated the lines along which he worked. These consisted of rest, preferably by immobilization in plaster-of-Paris jackets, followed by active hyperaemia. The jacket must be well made, moulded to fit perfectly, and could at first be worn only for a short period such as thirty minutes, for the patients were intolerant of fixation in one position for any length of time. The splint was usually tolerated for a gradually increasing space of time and eventually worn continuously. At the end of three to six months active hyperaemia of the parts was induced by means of radiant heat, the jacket being reapplied after each session. The whole time of treatment was usually from nine to twelve months. In exceptional cases this proved unsuccessful, and recourse was had to operation, which consisted in the removal of the posterior wall of the intervertebral foramina, usually necessitating the cutting away of laminae and articular processes. One case in particular was recorded. Excellent radiographs before and after operation were shown, and an entirely successful result six months after operation was reported.

Conclusions.

Professor Putti summarized his points as follows:

1. The importance of "neurodocitis."
2. Its recognition by good stereoscopic radiographs.
3. Its treatment by rest and active hyperaemia and occasionally by radical measures.

Nova et Vetera.

MATTHEW BAILLIE'S DIARY OF TRAVEL IN 1788.

A CONTEMPORARY of Arthur Young and John Howard, a successor of Tobias Smollett, and a predecessor of the Dutch Tilanus, Dr. Matthew Baillie went on the grand tour in the spring and summer of 1788. The record of the journey through France, Switzerland, Germany, Flanders, and Holland is contained in a modest diary, and is chiefly a survey of hospitals and anatomical museums and collections. The little volume, resembling a pocket-book, in which the traveller recorded his impressions was handed down in the family of his descendants and had remained unnoticed till it came into the Library of the Royal College of Surgeons in the summer of 1926. That its contents were unknown is hardly to be wondered at, for it is written partly in faded ink and doubtless with the worn quill pens found in primitive foreign inns of the year 1788. Moreover, it is couched in a queer attempt at French, which begins bravely when Baillie leaves Paris to travel eastward, and ends rather lamely as boredom and fatigue assail the traveller. The little MS. was unknown to Matthew Baillie's biographers, James Wardrop and Sir Norman Moore, and was evidently so lightly regarded by the writer himself that he makes no mention of it in his MS. biography, "A Short Memoir of My Life with a view of Furnishing Authentic Materials." Yet he there refers to his travels and says:

"In the course of this short sketch of my life I forgot to mention that in the summer of 1788 I made a short Tour on the Continent, in which I pass'd through part of France, of Switzerland, of Germany, of Flanders and of Holland. Many scenes with which I was delighted in that Tour are still strongly impress'd upon my mind."

Baillie was aged 27 in 1788 and was already well known as a lecturer on anatomy in the Windmill Street school, the use of which for thirty years had been left him by his uncle William Hunter. He published his first paper in the *Philosophical Transactions* in that year, and in 1789 became F.R.S. William Hunter had left him £5,000, and the estate of Long Calderwood, which latter he had of late generously handed over to his famous surviving uncle, John Hunter. He was therefore not too rich, and he gives one the impression in his descriptions of travel of being still a modest beginner, economical, alert, and eager to make the most of his opportunities. Yet he was fully imbued with the Hunterian tradition as to the collecting and preservation of anatomical specimens; he had served also under private teachers and amid private collections. Accordingly he found the carelessly preserved State collections of the Continent, under dilatory conservators, inflated with the kind of academic pomposity then common abroad, in many instances highly unsatisfactory. The hospitals, too, struck him as ill managed—overcrowded and often not too clean. On May 8th, in Paris, he records:

"We went to see the Hôtel Dieu, were through every ward, saw the large vessels for washing the Linnen, saw the Butcher's Shop for supplying the Hospital, the stable for the Cattle, the Kitchen, etc. 1800 lb. of meat consumed there every day in summer, 2000 consumed in Winter. A Row of beds at each wall. 2 rows of bed contiguous to each other in the middle. Now in it above 3000 patients."

Next day he visited the Hôpital St. Louis, an appendage to the Hôtel-Dieu,

"intended for patients having the itch, eruptions, and incurable complaints. Wards high—two, three, and sometimes 4 patients in a bed. Contains above 600 patients."

He had a far higher opinion of La Charité hospital,

"the best by much in Paris—218 Patients in the house—men only—one patient in one bed. Beds at very considerable distance from each other—Roofs rather low—Attended by Monks and Nuns and therefore probably well attended—A commodité between every two beds—Some good pictures in the Wards."

At Bicêtre he noted 250 madmen, and that some of the worst prisoners were sometimes kept in a "dark dungeon." He visited the Ecole Vétérinaire outside Paris and was dissatisfied with the museum.

"Saw some very good diseases of bones and calculi. The coarse injections were pretty good—well varnished—but the muscles most commonly removed so as to give no idea of relative situation. Some few tolerable absorbent preparations of the intestines, spleen, etc. Some preparations of Horses, Bulls, etc., with muscles preserved but not well managed. Some preparations of fetuses with their membranes, monsters, but not well suspended in the bottles—some fish—some stuffed Birds and beasts. Two Halls for preparations—Saw the stables with the Horses under cure. The chief means they employed were Setons and Purges. Saw a Room for dissection, large and airy, but nothing in it at present. Saw the shop for the medicines, etc."

At the Salpêtrière he saw the "*folles*."

"They were chained to the wall and are expos'd to every sort of weather day and night. When they are not very much affected in their Intellects they are allowed a Bed and are protected from the weather."

On the other hand, the hospital of the *Petits Enfans Trouvés* struck the traveller as "very clean and neat." Above twenty foundlings were "laid at the door each night." Illegitimacy was rampant in Paris during the piping times of the Ancien Régime, and it is a question whether the modern "apache" is not a descendant from the irregular sex relations of that as well as a later epoch. The foundlings observed by Matthew Baillie were under a severe rule. "They rise at half-past 4, breakfast at 6, dine at ten and sup at 5 in the evening, after which they soon go to sleep." Four large hospitals, says our author, are proposed at Paris, and these doubtless were in time built and became the famous institutions where, in the Napoleonic epoch and later, the great surgeons Dupuytren, Larrey, Boyer, Duméril, and their colleagues performed the operations which were the admiration of Tilanus and his fellow travellers.

Baillie travelled to Lyons in June, passing through a country traversed at much the same time by Arthur Young, who on this his second journey rode his mare 3,700 miles. Young brought back chicory seed from Lyons, and made many of the agricultural and sociological observations by which he is remembered. Baillie also thought it his duty to note crops wherever he went, and in France and across the Rhine records his observation of wheat, hemp, vines, tobacco, potatoes, and scattered trees in an unenclosed country, which puzzled him. In Lyons he visited the Hôtel-Dieu, a superb hospital with its 1,100 iron bedsteads. Each patient had a bed to himself, but there was a lack of visiting physicians and surgeons. A year later John Howard says of this hospital:

"The summer white furniture of the beds was changed into a dirty blue harradeen [a coarse woollen cloth] with useless fringes, well fitted to retain infection. The rooms were nasty and offensive; and two patients in many of the beds, but not one window open; the medical gentlemen here, and also the charitable *sisters*, being prejudiced against a free circulation of air, as well as against keeping rooms clean by washing them." (*An Account of the Principal Lazarettos in Europe*, etc., 4to, Warrington, 1789.)

Baillie next visits Geneva, passing through scenery which strikes him as being as romantic as that of the Hebrides. His travelling companion, a Dutchman, is the most disagreeable he has ever met, and his driver, an Italian, moves at a foot's pace. He says nothing, however, of the people in the inns, who struck Smollett as so surly towards travellers. Nor, indeed, does he comment, as does Arthur Young, on the eve of the French Revolution, upon the apparent prosperity of the peasants. The Geneva Hospital calls for little notice, but at Lausanne he is struck by the infirmary, which differs, he says, from all those so far visited by him. There are never more than four beds in one room: the insane are in rooms, and there is a department for the care of venereal patients. At Chamounix he notices two albinos, children of brunette parents. They are a surprise to him, as he does not appear to be familiar with the German writings on the subject of albinism published from 1777 onwards. At Berne he admires the clean orphanage and the fine workhouse. At the hospital he finds eight wooden bedsteads in each room, and there is no apothecary's shop in the house as in most foreign institutions of the kind. Prisoners are well cared for at Berne, which as a whole impresses the traveller by its cleanliness and general culture. At Strasbourg later on he is back on French soil, and here he has much to say, his account comparing interestingly with that of Tilanus. At the school of anatomy he finds a museum with 400 preparations, which include some monsters, snakes, and lizards. The specimens strike him as dirty and ill hung. He mentions the double matrix afterwards seen by Tilanus and commented upon by Eisenmann as early as 1752. Tilanus gives a curious account of what was still a

primitive kind of museum in the early nineteenth century. "The specimens are not placed in show cases," he writes, "but stand on unpainted wooden shelves, and some of the large ones lie loose on the floor." A railing presumably keeps visitors away from this derelict collection. Baillie approves of the orphanage, but finds it overcrowded with beds, of which there are six or seven rows in each ward. The Foundlings' Hospital is similarly overfull. In the huge military hospital he finds 350 patients in two or three rows of beds and in large wards. The latter are dirty, but hot and cold baths are provided, and there is a good laundry with good linen. The town hospital is dirty and overcrowded; he finds as many as seven rows of beds in one room. The beds are of wood and curtainless, and the absence of curtains seems always to distress him. There are three physicians and two surgeons, who are followed by pupils. There is a small madhouse with eighteen beds and a bathroom; this he condemns as very badly arranged and dirty. He is, of course, comparing things as he finds them with John Hunter's museum and arrangements at home and with St. George's.

Tilanus finds that these institutions have expanded in his day. Of the anatomical specimens, which in 1819 are separated from the natural history, he says: "The arrangement and the classifications are much better than at the Ecole de Médecine in Paris." But, like Baillie, he finds the hospitals overcrowded. He, however, praises the University Clinic, which has since the armistice of 1918 grown into one of the largest and finest hospitals in Europe. He differs from Baillie in mentioning several professors, such as Berot and Lobstein, the teachers of Goethe.

In the museum of the school of anatomy at Mannheim the diarist notes that of the 300 preparations many are ill sealed in their bottles. The professor has not the art of sealing, so well practised in the Hunterian museums. On later occasions he makes a like observation. He has little to say of the two hospitals, but notes that soldiers who die there are given to the professor for dissection, etc. At Frankfurt-on-Main he visits a very clean hospital, and another devoted to strangers, which is dirty, crowded, ill built, and devoid of baths and operating theatre. The clean hospital is doubtless the famous Senckenburg Institute, founded by a medical man, and fully described by Tilanus as one of the glories of the town. The diarist fails to examine a medical library which he finds in Frankfurt. At Mayence the Hospital of the Poor is full of patients, paupers, and orphans. The wards are rather dirty, bed linen and napery fine and very clean. The hospital, like others in Germany, is under a superintendent. Baths are lacking. Baillie has little to say of the Brussels and Antwerp hospitals, except that the medicines there are made up by the religious and the wards are a little crowded. In Holland he is loud in praise of the general cleanliness. At Rotterdam he notes the anatomy collection belonging to the Surgical Society. The 500 specimens strike him as being badly suspended and sealed, but the *eau-de-vie* in which they are preserved is clear. The petrified skeleton of a child arrests attention. The hospital is very clean, but there are often two in a bed and the rooms are too small. There are only about 30 patients out of a possible 200. There is a superintendent, and a physician and two surgeons pay daily visits. The Hague delights him as the prettiest town he has ever seen. He finds the anatomical museum at Leyden badly arranged and the jars ill sealed. The cabinet of Albinus contains superb injections, of which there are some 200. In Paris he had already viewed M. Sue's collection of anatomy, where he found "some good coarse injections," but "not a preparation in a bottle in the whole," and other collections, notably that of Madame Binns. The last-named consisted of some sixty specimens in wax modelled by this remarkable woman, who had studied anatomy secretly from her childhood onwards. The King of France bought her collection, and our diarist found many errors in the anatomy.

The trip ended in Amsterdam, where he had not time to view the hospital, but was loud in praise of the vast poorhouse, which is also a penitentiary.

That Matthew Baillie was a man of a sound classical education and considerable culture is well known. It is interesting to note the many but all too short observations on things in general contained in his diary, as these, taken together, afford a good idea of the mind of a cultivated medical man towards the close of the eighteenth century, when the so-called Age of Reason was merging in modern romanticism. In Paris, in May, 1788, nothing foreshadows the French Revolution of the following year. The Bastille is *in statu quo*—"a dark gloomy building with 8 turrets, surrounded by a high wall." The Louvre contains paintings "in extremely bad condition," "many much decayed." "Some statues—these extremely mutilated. Nothing put in proper light to be shown to advantage." On the other hand, the collection of minerals in the "Hôtel des Monnoies" is superb and the lecture room most elegant. The King's library, with its 300,000 volumes, is in excellent order, so also is the botanic garden. At the chapel of the English Benedictines, in "a corner set apart," he views the sepulchre of James II and the death mask in wax "taken as soon as he was dead." The Jacobins afterwards desecrated this Jacobite shrine and drew the King's fine white teeth. A visit is paid to Mr. David, "the first painter in France," and frescoes by Mignard are admired. The Palace of the Prince de Condé is the most superb he has ever seen. At St. Cloud "I saw the Count d'Artois playing at cards with some noblemen." At Versailles he sees the Cordon Bleu procession—

> "Nobles with black Cloak and Gold with blue sash all in chapel at 12 o'clock. King there—Queen in Gallery above—High Mass perform'd—Queen and King din'd afterwards [in public]—Gold Plates, etc."

The gardens of Versailles he finds very beautiful with their many "jetteaus" and orange trees. In the menagerie the "hyaina" and rhinoceros are the most remarkable wild beasts, and the buildings are extremely good. At the Jardin du Roi he is tickled at seeing a statue of Buffon "at the turn of the stair" in the Cabinet of Natural History with "animals, fossils, etc., lying at his feet," and the proud motto "Majestati Naturae par ingenium." This statue must have been known to Buffon twenty years before his death. He attends a meeting of the Académie des Sciences, and hears an abbé read a paper on the strata of the Pyrenees, illustrated by a piece of rock. A learned member called it "schorl, which rather abash'd the Abbé."

Outside Paris the traveller views everything somewhat from the eighteenth century point of view. He has little eye for scenery, though he commends the glaciers at Chamounix and "the shepherdesses." On the Rhine also he admires the customary views near Coblentz. Gothic architecture is admired as such, but he prefers "neat, elegant" classical buildings. However, he admits that Strasbourg Cathedral is the most superb ever seen by him. In Flanders and Holland he mentions very few painters save Rubens. At the Hague and Haarlem Franz Hals and Vermeer, and also the "Anatomy Lesson" of Rembrandt, seem as yet unknown, for he makes no mention of them. Among picture galleries he gives the palm to the collection of the Elector at Mannheim, though the Palais Royale in Paris ranks high in his estimation.

V. G. P.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee thirty-eight cases were considered, and £746 10s. voted to thirty-six applicants. The following is a summary of some of the cases relieved.

L.R.C.P. and S., aged 63, has, through illness, been unable to act as locumtenent and is now in hospital. To meet his expenses an emergency grant of £5 was sent, and a further sum of £40 voted.

M.R.C.S.Eng., aged 57, worked as an assistant until December last, when he was taken ill and is now in a nursing home. Only assets £120 capital and about £50 worth of furniture. The Fund sent 10 guineas and voted a further £40 payable in six instalments.

Widow, aged 67, of M.R.C.S.Eng. who died in 1914. Through failure of investments and the loss of a son who contributed to her support, she has taken a post as housekeeper at £60 a year. During the last two years she has broken her arm, and twice broken her ankle. She has £62 from two pensions, but debts of £20. She was voted £10.

Daughter, aged 40, of M.B.Aberd. who died in 1906. Supported herself as a clerk until 1925, when she had a serious breakdown, and is entirely dependent on her sister, who is a bank clerk. £10 was voted.

Daughter, aged 60, of M.R.C.S.Eng. who died in 1913. Owing to her age she has great difficulty in finding employment as a dispenser, and last year only made £82. From investments she received £24. Board and lodging cost her £90. She was voted £12 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

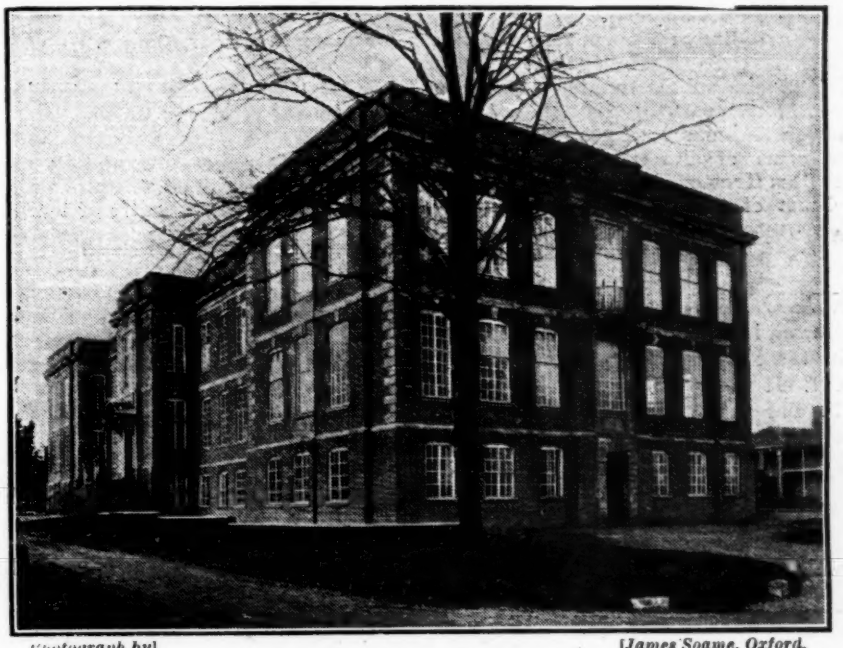
THE SCHOOL OF PATHOLOGY AT OXFORD.

OPENING OF THE SIR WILLIAM DUNN LABORATORIES.

WHEN Convocation resolved to set aside nine acres of the University Parks for the extension of the science departments of the University, nearly a third of the site was allotted to the School of Pathology. Upon this piece of land, bordering the north side of South Parks Road and within 200 yards of the Natural Science Museum, the new pathological block has arisen in leisurely fashion during the past three years. Its position is shown in the sketch map on the next page. The money for building and equipment has been provided by the directors of the Commercial Union Assurance Company, acting in their capacity as trustees for the late Sir William Dunn, who, with far-sighted wisdom, left the bulk of his large estate to be applied to benevolent purposes in such manner as they deemed fit. The trustees, after full consideration by a small committee, decided to allocate two sums—one for the establishment of a biochemical institute in the University of Cambridge, and another for a pathological institute in the University of Oxford.

The New Building.

The Sir William Dunn School of Pathology at Oxford, which with its contents has cost not far short of £100,000, is under the direction of Professor Georges Dreyer, M.D., F.R.S., who has held the chair of pathology in the University since 1907. The architect is Mr. Edward Warren, brother of the President of Magdalen, who has succeeded admirably in reconciling the claims of art and the workaday needs of medical science. His design has produced a handsome building of red brick faced with stone, simple and well proportioned outside and in.



Photograph by] [James Soame, Oxford.

MAIN FAÇADE AND EAST WING.

The main block consists of three floors, each with a long corridor running east and west of the central flights of stairs to the expanded wings at the ends. All the rooms, and the staircases and upper corridors as well, are excellently lit, with pleasant views over the Parks from many of the windows. The west wing, with large classrooms and library and museum, is for teaching, and the east wing for research; the basement comprises workshops, cold-rooms, sterilizers, store-rooms, mechanical plant, and so forth, all fitted with the latest appliances, and a low-pressure chamber that has an interesting war record. An airy outbuilding of two stories at the back of the grounds, connected with the main block by a covered way, provides good housing for animals—and for the boiler. The general appearance of the main frontage and east wing can be judged from the illustration; a corner of the animal house is seen on the right.

The old Pathological Laboratory in the University Museum (which has lately been refitted, at the cost of the Dunn Trust, to house the Pharmacological Department) was inadequate in many respects. The new building gives ample accommodation for twice as many students and research workers, with every advantage and amenity that modern equipment can provide.

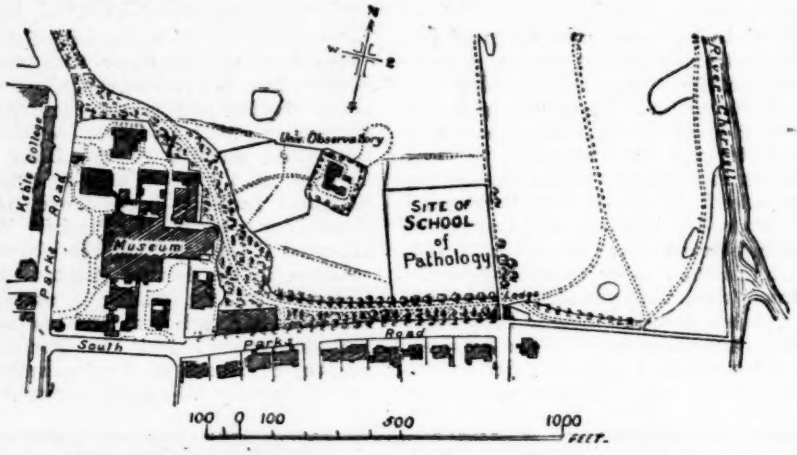
The Opening Ceremony.

The opening ceremony took place on the afternoon of Friday, March 11th, in the presence of a distinguished company. Owing to attacks of influenza the Chancellor of the University (Viscount Cave, Lord Chancellor of England) and the senior member of the Dunn Trustees (Sir Jeremiah Colman, Bt.) were unable to attend, and Mr. Charles D. Seligman formally handed over the building to the Vice-Chancellor, Dr. F. W. Pember, Warden of All Souls, who accepted it on behalf of the University. The visitors were received in the lecture theatre by Professor Dreyer. The Vice-Chancellor attended in state, and beside him on the dais were Mr. Seligman and his co-trustees, the Hon. A. H. Holland-Hibbert and Sir James Leigh-Wood. A large number of Heads of Houses and other senior members of the University attended, including Sir Archibald Garrod (Regius Professor of Medicine), Sir Charles Sherrington, Professors Arthur Thomson, J. A. Gunn, and R. A. Peters, Sir Frederick Keeble, Professor E. B. Poulton, Dr. William Collier, Mr. R. H. A. Whitelocke, Dr. A. G. Gibson, and Dr. E. W. Ainley Walker (Dean of the School of Medicine). Among the visitors to Oxford were Sir Humphry Rolleston (Regius Professor of Physic at Cambridge), Sir Frederick Andrewes, Sir Frederick Gowland Hopkins (Sir William Dunn Professor of Biochemistry at Cambridge), Sir Walter Fletcher (secretary of the Medical Research Council), Professor C. J. Martin (director of the Lister Institute), Professor J. S. C. Douglas (Sheffield), Professor Walter Ramsden (Liverpool), and Dr. Andrew Balfour (director of the London School of Hygiene and Tropical Medicine). Professors Moellgaard (Copenhagen) and Holst (Oslo) represented the Scandinavian Universities, and continuity with three former Regius Professors of Medicine at Oxford—Acland, Burdon-Sanderson, and Osler—was made by the presence of Dr. T. D. Acland, Professor J. S. Haldane, and Lady Osler. A large proportion of the company were in academic dress, and doctors of the University wore scarlet.

MR. SELIGMAN, in formally presenting the building to the University, expressed the general regret at the absence of the Chancellor and of the senior trustee, who had entered so fully into the project from the beginning. He then briefly recalled the history of the Dunn bequest, noting the wide discretion given by the testator to his trustees, and acknowledging the guidance given them by Sir Walter Fletcher. In approaching their task the trustees felt strongly that it was far better in the interest of mankind to get at the root causes of disease than to attack it when manifest. Hence their allocation of part of the funds at their disposal for the purpose of medical research and teaching, and for that there could be no better place than one or other of the great seats of learning. Mr.

Seligman ended his interesting and well informed speech by remarking that just as Sir William Dunn's Trustees had endowed a school of biochemistry at Cambridge and a school of pathology at Oxford, so the Rockefeller Trustees, with a fine feeling for symmetry, had endowed a school of biochemistry at Oxford and a school of pathology at Cambridge.

The VICE-CHANCELLOR, in accepting the munificent gift of the Dunn Trustees, recorded the gratitude and admiration of the University of Oxford for their wise and prescient stewardship. Sir William Dunn, he liked to recall, was an alderman of the Ward of Cheap in the City of London, and his posthumous gifts brought to mind the splendid endowments of Tudor days and of the seventeenth century. The compassion and breadth of mind of the testator were shown by his direction that a large part of his estate should go towards the alleviation of human suffering. To ensure the legality of using some of this money for medical research and education, his Trustees had prudently sought the sanction of the Court of Chancery. The University, too, might take some credit for granting so fine a site for the new School. Dr. Pember then briefly outlined recent developments in the study of pathology and bacteriology at Oxford. The first large step was taken by Sir Henry Acland, and a great impetus was given by his successor, Sir John Burdon-Sanderson. This new building, admirably designed and equipped, would give to those who worked in it the best modern facilities for teaching and research. In conclusion, the Vice-Chancellor, speaking on behalf of all present, paid a warm tribute to Professor Dreyer, who, during the twenty years of his work in Oxford, with straitened accommodation and equipment, but unwearying in resource and ingenuity, had inspired everyone around him with his own cheerful enthusiasm.



SKETCH MAP SHOWING SITE OF THE SCHOOL OF PATHOLOGY, OXFORD.

After the ceremony visitors took tea in the large laboratory above the lecture theatre, and had an opportunity of inspecting the institute and its annexe. All were agreed that its establishment will prove a great gain to the Oxford Medical School as a centre of teaching and investigation.

PATENTED RESEARCH.

IN our last issue we referred in general terms to the practice of patenting research, the subject having been suggested by the Drs. Dick patent. It would appear from the patent specification lodged in this country that an application for a patent was made in the United States on November 28th, 1924. We understand that under the International Convention an applicant for a patent in one country has a period of priority so that he can make similar application for a patent in other countries which are parties to the Convention. An application was lodged in the United Kingdom on August 31st, 1925, but this may have been a provisional specification. The "complete specification" (No. 243675) was accepted here on December 31st, 1926. "Accepted," so we understand, means that the Patent Office accepts the complete specification as fulfilling the rules and constituting a prima facie claim. The specification is published in the *Patent Journal*, and if no opposition is lodged within two months the patent is granted. In this case the period expired on March 12th, and so far as we are aware no opposition has been lodged. The matter is one of considerable importance, and doubtless the specification, which has, we presume, been accepted by the Patent Office, will be studied by all who are engaged in serological work. We set out below in full the eight claims made in the complete specification. The patent is taken out in the names of Dr. George Dick and his wife, Dr. Gladys Dick. The specification, in the first place, describes their methods of preparing the scarlatinal toxin, of identifying the specific streptococcus, of applying the skin test, and of preparing the antitoxin; and, secondly, enumerates the claims made under the patent. The latter are as follows:

1. The process of isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium, obtaining the sterile toxin therefrom, injecting an animal with the sterile toxin and obtaining an antitoxin specific to scarlet fever.

2. The process claimed in Claim 1, wherein the said antitoxin is contained in a serum which is obtained from the said animal.

3. The process for the identification and standardization of an antitoxin which consists in isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium, obtaining the sterile toxin therefrom, injecting an animal with the sterile toxin, obtaining an antitoxin specific to scarlet fever, and injecting the antitoxin into or through the skin of a human being.

4. An antitoxin specific to scarlet fever when obtained from the blood of an animal which has been injected with sterile toxin specific to scarlet fever.

5. An antitoxin specific to scarlet fever when obtained by the process claimed in Claims 1 or 2.

6. The process of isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium and obtaining a sterile toxin therefrom.

7. The process for the identification and standardization of a toxin which consists in isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium, obtaining a sterile toxin therefrom and injecting the toxin into or through the skin of a human being.

8. A sterile toxin specific to scarlet fever when prepared by the process set forth in any of the preceding claims.

The essence of the patent seems to be in the method of discriminating the scarlatinal streptococcus from other streptococci. This is done by means of a skin test analogous to the Schick test in diphtheria. Claim 6 prohibits everyone from isolating scarlatinal streptococci by this means. The other claims rest on this one; the toxin, antitoxin, and serum mentioned in the specification refer to such as have been obtained by the streptococcus so identified. Taking the claims altogether they practically amount to this: that the streptococcus identified in this manner is neither to be isolated nor made use of in any way whatever; and further (Claims 4, 5, and 8), that toxin and antitoxin are to be obtainable from the patentees alone. The patent may conceivably remain a dead letter; it would not be the first time that such a thing has occurred. But, assuming that it will be acted on, it cannot be otherwise regarded than as a serious hindrance to research, and it will be interesting to hear from the Drs. Dick why they have adopted this particular line of policy. Serological research has always been free from trammels of all kinds, and its phenomenal fruitfulness has been partly due to that fact. The claim of the Drs. Dick rests on a whole series of unpatented discoveries in the past, and is merely a natural, and probably an inevitable, sequel to them. They are making a break in one of the traditions of the medical profession for reasons which, we confess, appear to us obscure.

British Medical Journal.

SATURDAY, MARCH 19TH, 1927.

INFLUENZA AND THE HEART.

THE history of every epidemic of influenza shows that it invariably leaves in its wake a trail of victims who for a longer or shorter period after the main illness has passed away fail to recover their normal powers in one direction or another. A low blood pressure, a subnormal temperature, an excessive lassitude, are part of a chain of symptoms that incapacitate the sufferer for weeks or months; as Sir William Gowers put it, they suffer from an inertia so intense that every action may require for its initiation an effort of will that is almost painful, and its accomplishment results in undue fatigue and (it may be) even in collapse. In the mind of many this "good-for-nothingness" is ascribed to some deficiency in the action of the heart; and in the more tragic cases of sudden death, which always attract special attention when an epidemic stalks the land, the blame is often laid at the door of the prevailing scourge; the parson dies in the pulpit, the cook falls dead in the kitchen, and some unknown effect of influenza on the heart is adduced as an explanation of an otherwise inexplicable event.

The cases of simple bradycardia, which are by no means uncommon, and the rarer cases of heart-block of varying severity, can be shown, as Cockayne[1] pointed out, to give the typical electro-cardiographic response due to involvement of the myocardium and conducting tissues; but these account for only a small proportion of those cases in which, from a variety of symptoms, suspicion falls upon the heart. Exact information as to what damage influenza actually does to the heart is difficult to obtain; a considerable number of pathological investigations have been made on the condition of the heart in patients dying in the acute stages, and the evidence is somewhat conflicting. Sir James Mackenzie,[2] writing after the 1918 epidemic, stated that *post-mortem* examination revealed the extensive damage done to the myocardium, and suggested that influenza might lay the beginnings of a myocarditis which would ultimately end in heart failure; but, curiously enough, he had to admit that in a very considerable clinical practice he had not seen this occur, and he gave it as his opinion that the post-influenzal debility so commonly seen was not cardiac in origin. Dr. T. H. G. Shore,[3] in a report to the Medical Research Council, published some observations made during an outbreak among the troops in 1918, and has confirmed them during the recent epidemic. He found that there very frequently is a widespread hyaline degeneration of both skeletal and cardiac muscle, and to this he attributes the low blood pressure which he suggests is one of the important and characteristic features of the disease. Lucke, Wright, and Kime[4] also found acute parenchymatous changes in the myocardium in a large proportion of cases in a series investigated in America, in 90 per cent. of which there was dilatation of the right side of the heart. On the other hand, most observers in Germany and others in this country appear to have detected no exceptional change in the heart; a few cases, indeed, in most series have shown some form of myocardial degeneration of various forms, but on the whole there has been nothing in this respect to mark out influenza from other acute infective conditions where—as in typhoid fever, for example—a hyaline degeneration of muscle is of no particular rarity. These discrepancies may perhaps be accounted for in part by the fact that muscle tissue is queer stuff in the peculiar changes it may undergo according to the manner of death and of fixation, and different interpretations may well be placed by different observers on the varying changes found, whether they be gross or microscopical. Moreover, it may well be that many a case which has been passed as normal from its gross appearance would have shown some histological change.

There is, however, a very considerable body of opinion which looks upon the general debility, the low blood pressure, and the subnormal temperature of the post-influenzal state as symptoms of a derangement of the vasomotor mechanism, and as in no way dependent on a primary cardiac defect. In this connexion it is interesting to recall the work of Stoerk and Epstein[5] in Vienna in 1919. These observers examined the arteries in a series of cases dying of acute influenza; they limited their study to patients between the ages of 13 and 23 dying between the eighth and fourteenth day of the disease, so as to avoid as far as possible the inclusion of vessels that might have been damaged by other factors. As a result they found widespread degeneration of the peripheral vessels, with destruction of the internal elastic layer and necrosis of the muscle of the media; this degeneration was scattered about the body irregularly, but it was especially noticeable in the coronary arteries; they particularly stated, however, that the cardiac muscle itself was not affected. Although they did not suggest that these lesions were specific for influenza—indeed, they pointed out the general agreement of their findings with those of Wiesel in other acute infections—yet they thought from their experience that the changes were more constantly present in influenza, and suggested that they did provide a pathological basis for the clinical symptoms of circulatory failure.

Whatever the future may reveal as to the underlying pathology, it is pretty clear that low systolic blood pressure is a very definite phenomenon both in the acute and in the post-influenzal condition. This may be due in the main to a primary cardiac lesion, but it is possible that the toxin in influenza may also have some deleterious action on the suprarenal bodies. Several workers have made investigations on this point, and Cowie and Beaven,[6] although unable to demonstrate any definite histological damage to the suprarenals, thought they found distinct evidence of "hypofunction"; but the advantage that has been claimed for treatment with adrenaline and other similar methods has received no great measure of confirmation. Treatment by drugs directed especially towards the heart has by general agreement proved conspicuously unfruitful, but attention given to the blood pressure and care to insist upon rest until it has reached a normal level may well save many patients from a series of distressing symptoms, and some from disaster.

[1] *Quart. Journ. Med.*, vol. 12, p. 409.
[2] *Practitioner*, 1919, p. 19.
[3] *Lancet*, 1927, i, p. 252.
[4] *Arch. Int. Med.*, 1919, vol. 24, p. 154.
[5] *Frank. Zeit. f. Path.*, 1920, vol. 23, p. 163.
[6] *Arch. Int. Med.*, 1919, vol. 24, p. 78.

ALCOHOL AND LONGEVITY.

ALTHOUGH no problem—the problems of religious belief and practice not excepted—gives rise to more bitter controversy than that of the use of alcoholic beverages, the amount of ground common to the holders of even extreme opinions on either side is really large. No educated man in the one camp doubts that alcohol taken in large doses at frequent intervals is a dangerous poison; in the other, the sternest supporter of total and lifelong abstinence from every form of alcoholic beverage does not believe that the taking of minute quantities of the drug at long intervals works irreparable harm. Similarly, although precisians of both parties may split verbal hairs, nobody seriously contends that alcohol is a "food" in the common-sense way that bread is a food, or that it is a "stimulant" in the sense that tea is a stimulant. The real controversy is on another plane. A prohibitionist might easily concede that a moderate use of wine does in fact add to the joy of life of thousands of good citizens, and yet maintain that the price to be paid in terms of social evil is too heavy to be borne. An antiprohibitionist might contend that, although for every pleasure of alcohol there is an adequate substitute, yet any attempt to suppress a usage older than civilized man would inevitably create more evil than it averted. In truth there are perhaps among educated men of to-day none who would either prohibit the use of alcohol in all circumstances or would free its use of any restrictions. All admit the need of some restriction; it is a delicate question of degree and method. To the solution of this problem Dr. Raymond Pearl, in a recent essay on alcohol and longevity,[1] neither makes nor affects to make any contribution. He is concerned with two questions — namely, our objective knowledge of (1) the racial or hereditary effect of alcohol, and (2) the effect of alcohol upon the average duration of life of individuals. His chief new contribution to the study of the former problem is a systematic confrontation of his own experimental results upon fowls with those of Stockard upon guinea-pigs and of MacDowell upon rats, while the second problem is elucidated by an analysis of statistics of human families collected in Baltimore (a preliminary account of which appeared in our columns on May 31st, 1924).

With regard to the former problem, the principal results are that the immediate effect of alcoholizing parents is to increase pre-natal and neo-natal mortality. It appears, further, that, in guinea-pigs, the average offspring of treated animals are inferior in weight to controls (in rats the controls were inferior), and still show, in breeding, a higher rate of pre-natal or neo-natal mortality. But these disadvantages decrease until in the F4 generation of descendants from alcoholized animals we have an equality in weight and a definite superiority in pre-natal and neo-natal mortality. Dr. Pearl concludes that "the *racial* effect of alcohol is preponderantly either beneficial or, at the worst, not harmful. This is true for characters depending upon general vigour in guinea-pigs (after early generations are passed), fowls, rats, mice, rabbits, insects, and probably frogs." This seems to put the case rather too high. All that Stockard claims, if we understand his argument rightly, is that if a generation of parents be submitted to the action of alcohol and the descendants not exposed to alcohol, then, ultimately, in the fourth generation, we shall have a population superior to the ancestors, inferior variants having been weeded out by the selective action of the drug. It is certainly not proved that if *each* generation were exposed to alcohol we should ultimately produce a better living population. The directly deleterious effect of the drug on each living generation might more than counterbalance the effect of elimination of inferior variants.

Dr. Pearl's contribution to the second problem—namely, the effect of alcohol upon average longevity—is based upon a study of 5,248 individuals derived from the families of (*a*) tuberculous persons, (*b*) non-tuberculous persons taken at random from those who had been before a juvenile court for some trivial offence or registered in the out-patient department of the Johns Hopkins Hospital. This material is very carefully analysed by the appropriate actuarial methods, attention being paid to nature of habits in use of alcohol (whether abstainer, occasional moderate drinker, steady moderate drinker, heavy occasional drinker, heavy steady drinker), civil state, change of habits during life, and so on. It appears that, however analysed, the heavy drinkers showed a disadvantage in comparison with the abstainers, and the moderate drinkers either an equality with or even some advantage over the abstainers. It is quite clear that the material is not, statistically speaking, a random sample of the population, but it also appears that the nature of the selection is not such as to produce a bias in favour of those using alcohol. Hence there seems to be no reason to dissent from the conclusion that, on the average, a moderate use of alcohol does not tend to shorten life. We must, however, demur from Dr. Pearl's phrasing when he writes that "it [that is, this evidence] certainly gives no support to the almost universal belief that alcohol always shortens life, even in moderate quantities." We should have said that such a belief was far indeed from being universal.

In addition to the important new data we have mentioned, Dr. Pearl provides a critical analysis of earlier researches and a useful bibliography. It is very hard to write on any phase of the alcohol problem without ever departing from the objectivity of a man of science, and there are some passages in this book which we could have wished away. But, taken as a whole, it is, we think, a valuable contribution to knowledge, worthy of its author's high reputation, and written with the clarity and grace that always characterize his work.

[1] *Alcohol and Longevity.* By Raymond Pearl. New York and London: A. Knopf. 1926. (Extra post 8vo, pp. xii + 273; 19 figures. 15s. net.)

THE LISTER CENTENARY IN GLASGOW.

GLASGOW, as the cradle of that antiseptic method which abolished hospital gangrene from surgical wards and made the surgery of the cranium, thorax, and abdomen possible, may fitly at this time honour the hundredth anniversary of the birth of the distinguished man whose work in her midst led up to these great developments and heralded the new surgical era. In 1860 Mr. Joseph Lister, an Englishman, who had been house-surgeon under Professor Syme in Edinburgh, was appointed to the chair of surgery in the University of Glasgow. Soon afterwards his colleague the professor of chemistry directed his attention to Pasteur's studies in fermentation and kindred topics. Seizing the principles of these researches, Lister set to work to apply them to the exclusion of germs from surgical wounds. In the wards of the Glasgow Royal Infirmary he initiated antiseptic treatment, using various devices to make it effective. In 1867 he published papers setting forth the record of two years' practice of the new surgery. By 1869,

when he returned to Edinburgh to be professor of surgery there, the foundations of antisepsis had been securely laid. The Lord Lister centenary celebrations in Glasgow will, as mentioned briefly in our last issue, take place on April 1st next. The Lord Provost and magistrates of the city, and representatives of the University of Glasgow, the Royal Faculty of Physicians and Surgeons of Glasgow, and other public and scientific bodies, including the British Medical Association, will assemble in the Royal Infirmary at 10.45 a.m., and walk in procession to the Cathedral close by, in which, at 11.15, a public commemorative service will be conducted by the Rev. Lauchlan MacLean Watt, D.D., Minister of Glasgow, who will preach the sermon. At 1 p.m. the Lord Provost and Corporation of Glasgow will entertain the representatives of the public bodies and scientific societies to luncheon. The illustrious memory of Lord Lister will be proposed at the luncheon by Sir John Bland-Sutton, Bt., ex-President of the Royal College of Surgeons of England. The guests at the luncheon will include Professor Irvine H. Cameron, representing the Royal Society of Canada; Dr. D. Colquhoun, representing the University of New Zealand; and Professor de Quervain of Lausanne. Thereafter the representatives of the various bodies who intend paying homage to Lord Lister's memory will proceed to his statue in the Kelvingrove Park, in front of the high tower of his old University, though not the building he knew, and place their floral tributes at the base of the statue. In the evening at 8.30 the University of Glasgow will hold a reception. The guests will be welcomed by the Principal, Sir Donald MacAlister, Bt., K.C.B., and short addresses will be delivered by Sir Hector C. Cameron, C.B.E., who, as Lister's house-surgeon at the Glasgow Royal Infirmary in 1867, was an eye-witness of these things, Sir George T. Beatson, K.C.B., Emeritus Professor Murdoch Cameron, M.D., and Professor Irving H. Cameron. The bodies participating in the conduct of these celebrations will be the Corporation of Glasgow, the University of Glasgow, and the Royal Faculty of Physicians and Surgeons of Glasgow, which have joined together to commemorate one whose signal achievements have reflected distinction upon the city which cradled his pioneer work.

INDUSTRIAL PSYCHOLOGY.

THE National Institute of Industrial Psychology has just issued its annual report for the year 1926. It covers the sixth year of the activities of the Institute, and discloses a remarkable work done over an extensive field, and a happily increasing appreciation of the practical usefulness and widening promise of such work. The names of the president of the Institute, the Earl of Balfour; of its vice-presidents, Viscount Haldane and Sir Charles Sherrington; of its director, Dr. Charles S. Myers; the list of its council, composed of many of those most eminent in medicine, in science, in industry, in commerce, and in education, are sufficient guarantee of the genuine character and the national importance and scope of its investigations and services. Not so very long ago there was a tendency in some quarters to be sceptical with regard to this. There is no excuse for such scepticism to-day, when even the United States of America, with all its "scientific management" of industry, is enlisting the services of this British National Institute to correct or replace its own cruder methods. The activities of the Institute may be described as threefold—concerning vocational aptitude, vocational methods, and vocational surroundings. Remarkably successful results have been obtained, both psychological and economic. It can never be easy to ensure that the right person is doing his appropriate work by the most suitable methods in the best surroundings, but commercial and industrial firms are showing a welcome tendency to seek the services of the Institute in connexion with their enterprises, and there is scarcely an instance in which the financial return and the output and comfort of the workers have not all been greatly improved as the result of applying the suggestions made and the advice given. The present report records such results in concerns so varied as factories of various kinds, spinning and woollen mills, quarries, oil refining, rubber works, gas works, printing works, motor-car construction, omnibus building, laundries, hotels, retail stores, banks, and offices. The point of view of the workers themselves is well illustrated by comments made to members of the Institute's investigating staff: "Could we not have more like this? It has made it a lot easier for us"; "I wish you had been here when I was a girl; I wouldn't look the old hag I do now"; "How on earth did they get on without you so long?" Such practical work as that indicated necessarily involves, indeed constitutes, research, and much of the vocational selection and guidance is in its nature experimental; it is important and interesting to note that much of it is being done at, or in co-operation with, the Industrial Fatigue Research Board, the Borstal Institution, employment bureaux, and education authorities. Two of the investigations on which Dr. C. S. Myers has himself been engaged, for instance, are the effects of menstruation on mental and muscular efficiency, and the influence of ultra-violet rays on the efficiency of the factory worker. Three separate reports dealing with vocational psychology, very valuable and suggestive, have been published by the Institute. They deal mainly with vocational guidance; and with regard to this the Committee on Education and Industry, in its recent report, says: "We think that the experiments should be encouraged, and we would recommend that local education authorities, juvenile advisory committees, and teachers should make themselves acquainted with the tests which are carried out and the methods adopted." We can unreservedly make the same recommendation to the medical profession.

LIPIODOL.

THE use of lipiodol in many branches of medicine and surgery is now well established, and numerous papers have recently been published on the subject since that by Mr. Sargent which introduced the method to surgeons in this country (BRITISH MEDICAL JOURNAL, 1923, ii, p. 174). At a meeting of the Medical Society of London on March 14th Dr. Jacques Forestier of Paris, one of the originators of the use of lipiodol in radiography, gave an interesting account of its discovery and the various ways of employing it. Six years ago a patient under the care of Professor Sicard was receiving injections of lipiodol into the buttock for therapeutic purposes, and a chance radiological examination led to the discovery that the substance was opaque. This led Sicard and Forestier to investigate the use of lipiodol, which Sir Percival Hartley described later in the evening as one of the greatest aids to the diagnosis of diseases of the chest which had been discovered in the last twenty years. Dr. Forestier detailed the steps of the evolution of the use of lipiodol, animal experiments being carefully performed in the first instance. The oil itself is prepared from poppy seed; iodine to the extent of 40 per cent. can be combined with it, and is not merely in solution. Its uses in the diagnosis of diseases of the lungs and bronchi were described, and Dr. Forestier indicated the various ways in which it could be injected. The only contraindications in this connexion were advancing tuberculosis with fever and haemoptysis. With regard to the spinal cord, two main routes were used: 1 to 2 c.cm. of lipiodol could be injected into the cisterna and allowed to fall by gravity, or the same amount could be introduced by lumbar puncture and the patient carefully tilted on a special x-ray table. In this way complete stoppage of the opaque oil by a tumour could be seen, and also definite x-ray

evidence of even intramedullary tumours could be obtained, when a curious picture of partial blockage was presented. A further development was the use of "light lipiodol," a mixture of lipiodol and olive oil, to inject the ventricles of the brain, since this "light" variety would rise in the cerebro-spinal fluid. By injection into the epidural space in cases of sciatica lipiodol was made to surround the sheaths of the spinal roots, with beneficial therapeutic results. Dr. Forestier, reviewing other uses of lipiodol, said that the nasal antra and sinuses had been injected, and in some cases of disease of the lacrymal ducts it was of value. The injection of sinuses and fistulae by this substance was also beneficial, since it was completely non-irritant. He described one case of deep-seated abscess without a fistula which, by means of lipiodol, was traced to previously undetected spinal caries. The arteries could also be injected, and Dr. Forestier described two striking cases of gangrene of the leg where the exact site of the obstruction was localized in the arteries, leading in one of these cases to successful embolectomy from the femoral artery. In the genito-urinary system lipiodol had also been used to demonstrate diseases of the urethra, ureters and kidneys, and even the vas deferens and seminal vesicles had been successfully injected. Lastly, Dr. Forestier mentioned the injection of lipiodol into the uterus and Fallopian tubes, where it was useful to diagnose tumours in the pelvic cavity and to test the patency of the tubes. Dealing finally with the dangers of the method, Dr. Forestier stated that he had used lipiodol in thousands of cases without any sort of accident, except in one case of injection of the spinal canal followed by slight "shock" symptoms. He had recently searched the bibliography without finding the record of any fatality.

THE PRACTICAL VALUE OF INSULIN.

PROFESSOR MARCEL LABBÉ begins to exercise a kind of appellate jurisdiction in medicine. For instance, a certain number of physicians have been saying that there are cases of diabetes which prove refractory to the action of insulin. An appeal like this against the accepted verdict in favour of insulin needs a judicial hearing. Professor Labbé gives his considered verdict in a communication to the Académie de Médecine. In some cases, he says, where insulin is accused of failure the trouble has been renal glycosuria without hyperglycaemia. Chabanier's suggestion that certain true diabetics have kidneys abnormally permeable to glucose he rejects because it is unsupported by evidence. Hepatic glycosuria is refractory to insulin, but it is not true diabetes, and in some instances true diabetes may be complicated by cirrhosis of the liver, which may delay improvement, though ultimately such cases respond to treatment with insulin. Then Professor Labbé goes on to mention cases of glycosuria which may be refractory owing to disorders of the thyroid, pituitary, or suprarenals. But he points out that glycosuria associated with lesions of the thyroid or pituitary may depend in a measure on failure of the internal secretions of the pancreas. Next he deals with true diabetes complicated by severe infections, and whilst admitting that diabetes may be greatly aggravated by concurrent infection, it does not, he says, become refractory to insulin if only big enough doses are administered. As for diabetes complicated by arterio-sclerosis and nephritis where coma develops, he holds the coma to be due to cerebral haemorrhage or uraemia, and insulin cannot be expected to avert or cure these accidents. Professor Labbé finally discusses the cases of true diabetes where the patients deceive the physician by surreptitiously increasing the diet prescribed. He quotes many examples where insulin has been credited with failure that turned out on closer surveillance to be entirely due to the patient's refusal to submit to dietetic restrictions, or, again, to error on the part of the physician in the regulation of the diet. He concludes by giving as his verdict that there is no case of true diabetes, however severe it may be, that proves refractory to insulin. Professor Marcel Labbé has rendered a signal service to medicine by his careful consideration of a difficult problem and by his authoritative judgement.

THE INFLUENCE OF MANURIAL CONDITIONS ON THE VITAMIN CONTENT OF GRAIN.

THE fact that white bread is almost universally preferred in this country, and that it forms a high proportion of the diet of the poorer urban population, coupled with the further fact that it is deficient in vitamins, has caused many people to be alarmed at the possibility of the total diet of these classes being seriously deficient in vitamins. The dietary problems in this country are, however, trivial compared with those occurring in the East, where populations of many millions restrict themselves to a single cereal as the staple article of their dietary. Lieut.-Colonel McCarrison, I.M.S., who is in charge of the Deficiency Diseases Inquiry in South India, has recently published[1] an interesting paper which opens up many new problems regarding the possible causes of vitamin deficiency. He made experiments to determine the relative vitamin content of millet and wheat grown under varying conditions. Three different cultural methods were tested. The grains were grown on plots of ground which had received no manure for many years, in ground treated with chemical manure, and on plots supplied with cattle manure. The yields of the different plots varied greatly, and the manured plots yielded three or four times as much grain as did the plots without manure. As regards vitamin content, the most striking result obtained was with millet; the grain from the plot which received no manure of any kind appeared to be completely devoid of vitamin B, whilst the content of this vitamin in the grain of the cattle-manure plot was markedly higher than that in the grain from the plot treated with chemical manure. Millet is the staple diet of large populations in the Madras Presidency, and the poor lands in this district have the same general characters as those of the no-manure plot. It is to be noted that beri-beri is endemic in certain areas. These facts indicate the great practical importance of the experimental results obtained. Those with wheat were not so clear. Wheat from cattle-manure plots had a distinctly higher vitamin A content than wheat from chemical-manure plots, but although the no-manure plots gave a very poor yield of grain, yet the wheat obtained had as high a content of vitamin A as the cattle-manure wheat. It seems, therefore, that the influence of manure supply on the vitamin production of grain is complex, and that different cereals are affected in different ways. There are many possible reasons for these differences, but it is evident that McCarrison's experiments have opened up large and important problems, and it is to be hoped that this interesting work will be continued. The vast damage that deficiency diseases have in the past produced amongst Eastern races makes it important to learn as much as possible about the conditions governing the vitamin content of the grains that constitute their dietary.

LESSONS FROM NECROPSIES.

PROFESSOR WILLIAM OPHÜLS of the Pathological Department of the Stanford University Medical School has made a careful statistical survey of 3,000 necropsies[2] performed by him or his associates, mainly in the Lane Hospital or in the San Francisco Hospital, during the years 1900 to 1923.

[1] *Indian Journal of Medical Research*, 1926, vol. xiv, p. 351 et seq.

[2] *A Statistical Survey of Three Thousand Autopsies from the Department of Pathology of the Stanford University Medical School.* Stanford University Publications; University Series, Medical Sciences, Vol. 1, No. 3. 1926. (Sup. roy. 8vo, pp. 244; 16 charts. Paper 2.50 dollars; cloth, 3 dollars.)

One-tenth of these were on cases fatal before or shortly after birth, and in more than one-third (112) of these 307 cases the cause was congenital syphilis, so that all other diseases pale into insignificance in comparison as factors in infant mortality—a conclusion which does not appear to be of universal application. The largest number of deaths occurred between the ages of 50 and 55. Taking the cases as a whole, by far the most frequent morbid change was tuberculosis, which was present in 64 per cent. of all bodies, being active in 22 per cent. and quiescent in 42 per cent.; in 82 per cent. of the total it was pulmonary. Septic infections were present in 1,288 cases, or nearly 43 per cent. of the total 3,000. The respiratory tract was affected in 384 cases, or 30 per cent. of the septic cases, there being 200 of bronchopneumonia and 122 of lobar pneumonia (it may be noted that only 38 necropsies were performed during the influenza pandemic of 1918-19); the endocardium was affected in 302 (209 chronic); the liver and biliary tract figured in 103 cases, and the rest of the alimentary tract in 137, the appendix being inflamed in 23 only; but there were also 125 cases of suppurative peritonitis. General arterio-sclerosis occurred in 917 cases, and chronic nephritis in 101; this subject, on which Professor Ophüls wrote an admirable monograph (the first in this series) in 1921, is discussed at considerable length, and a number of interesting points are brought out; among 105 cases of arterio-sclerosis of the cerebral arteries, haemorrhage into the brain occurred in 45 and was recent in 38, thus showing its fatal character. Among 7 additional examples of cerebral haemorrhage the arteries both in the brain and elsewhere were healthy, but in 4 of them there was evidence of high blood pressure, as shown by cardiac hypertrophy; this observation is obviously of interest in connexion with the question whether or not high blood pressure can produce rupture of a normal artery. There were 129 cases of coronary arterio-sclerosis, and in 70 of these specially investigated there were 8 with angina and advanced arterial change, 6 of them with thrombosis. The observations made did not support the view that angina is due to disease of the first part of the aorta. The systems of the body are gone through seriatim, and many deductions useful in medicine can be gleaned from these pages. For example, more than a third of the patients with known chronic alcoholism had excessive accumulations of fat somewhere in their bodies, and a little less than a third of all patients with such fatty deposits were known to have been chronic alcoholics.

SYMPTOMS PROLONGED BY HABIT.

DR. CHARLES FIESSINGER, in a communication to the Académie de Médecine on February 1st, discussed the effect of habit on morbid symptoms. He had already recorded the case of a patient, 66 years of age, who suffered from slowness of the pulse, probably due to arteritis of the small vessel of the bundle of His. The arteritis was cured, but the slow pulse remained, until a new doctor restored the confidence of the patient, and a cachet of theobromine removed the symptom. The patient remained well for eighteen months. The symptoms most likely to be perpetuated by habit were those most accessible to the will. Habit would have less effect on fever than on cough or constipation. Pain that had been relieved by morphine might persist though the cause had been removed; and each successive injection confirmed the habit of pain. Similarly with insomnia, a patient might fail to sleep unless he had taken his cachet. Yet if he ceased to take it, though he might not sleep for four or five days, in the end the habit would be broken and normal sleep would return. In heart disease dyspnoea might continue though the heart had become nearly normal and the kidneys were functioning well. In such cases twenty-five years ago miracles were wrought by the Trunecek serum, which attacked a symptom having no right to exist except in its obstinacy against disappearing. Dr. Fiessinger even thought that a heart could take the habit of dilating; and that some albuminurics passed albumin through habit. The cure of such cases by restoring the patient's confidence had been confirmed by Eichhorst. In cases of habit in symptoms such as those described, the doctor, while prescribing appropriate remedies, would devote his attention mainly to the mentality of the patient. He would try to remove fears, and to break down the habit by emotional reactions. The manner in which these reactions should be provoked depended upon the perspicacity and intelligence of the doctor.

MENTAL HYGIENE AND EMIGRATION.

A MOST imposing document has been issued by the United States Public Health Department, entitled *Mental Hygiene, with Special Reference to the Migration of People*.[1] It is the work of Dr. Walter L. Treadway, surgeon in the United States Public Health Service. He may well be complimented upon the comprehensiveness of his survey. The emigration law of the United States provides for the appointment of boards of special inquiry. These are composed of immigration inspectors, who determine upon the disposition of all cases of immigrants detained at ports of entry in accordance with the law. Such boards are authorized to determine whether an alien who has been duly held back shall be permitted to land or shall be debarred from entering the country. The decision of a board of special inquiry is often based upon the certificate of medical officers, and, according to law, "shall be final as to the rejection of aliens affected with tuberculosis in any form or with a loathsome or dangerous contagious disease, or with any mental or physical disability which would bring such aliens within any of the classes excluded from admission to the United States." There is a right of appeal from such decisions. Racial groups organize and maintain "machines" for the furtherance of the aims of their compatriots: "Unless one is familiar with these effects, he cannot appreciate the enormous pressure of influences that seek to land excluded aliens." Humanity forbids the return of persons who are actually ill, and for these temporary admission is allowed, but such are the facilities for delay that a mentally defective woman whose deportation was stayed under bond remained, and is still in the United States after seven years, for each successive order for deportation was postponed on request for re-examination. In the meanwhile she has married and produced two children. "What of her progeny?" asks Dr. Treadway. That is the main thesis of the work: to ascertain the effect of emigration upon mental disease. There are excellent chapters on the conception of mental hygiene, on the policy of public relief of defectives, and in particular the growth of the policy in the States in correctional institutions, the care of the insane, and the education of the feeble-minded. There follow chapters on European ethnology; a description of the ten decades of migration to the States; chapters on the evolution of emigration laws—these began with slave importation and the transfer of criminal prisoners to the colonies; the psychological characters of the racial groups of immigrants; and finally, details of the actual work of the immigration officers and those having the care of the insane. There are immense bodies of statistics, some of them most suggestive. For example, in New York State foreign-born comprise about one-fourth of the general population, but almost one-half of the first admissions to the public institutions for

[1] Public Health Bulletin, No. 148: *Mental Hygiene, with Special Reference to the Migration of People*. By Walter L. Treadway, United States Public Health Service. Washington: Government Printing Office. (Pp. 190. 25 cents.)

mental disease are foreign-born. Further, figures go to show that the admissions of foreign-born are greater in the later years of their residence than in the early. On this is based a suggestion that greater care in mental examinations and more strictness are required. Racial groups show specific liabilities. Syphilitic brain disease is highest among Indo-Eranic, Sinitic, Negritic, Lettic, Finnic, and Chaldaic stocks, low among the Anglo-American stock. Malayic stock is prone to mental disease from traumatism. The Celts seem more prone to develop intoxication psychoses than any other stock; the Irish rank first in disorders due to alcohol, Slavonics are high, the Hellenics, Indo-Eranic, and Chaldaic the lowest.

NATIONAL ASSOCIATION FOR PREVENTION OF TUBERCULOSIS.

THE National Association for the Prevention of Tuberculosis has issued an illustrated historical sketch of its career from its inception in 1898 down to last year. The object of the publication, it would seem, is to invite financial help for a wide extension of propagandist effort. Notwithstanding the assumption by the State and local authorities of responsibility for tuberculosis schemes, the association is convinced that much remains in which voluntary bodies may render assistance. The directions in which the association desires to extend its efforts are in educating every member of the community in the cause and prevention of tuberculosis, and in developing a scheme of tuberculosis care committees throughout the country. A further object of the association is "to render aid to pressing claims for help, communal and individual, . . . when the need cannot adequately be met, if at all, by provisions rendered possible by statute." The pamphlet sets forth a very fine record of work accomplished by the association in diffusing knowledge of the disease amongst the lay population, and in promoting various schemes, national and international, for dealing with the victims of tuberculosis. Under the former heading are the promotion of congresses, beginning with the British congress in 1901, to be followed by international congresses in various countries; the compilation and distribution of leaflets; tuberculosis exhibitions and caravans; lectures and films. To aid in treatment the association has taken up the subject of training for voluntary workers in tuberculosis, and, at the request of the Joint Council of the Order of St. John and the British Red Cross Society, drafted a scheme of training for members of Voluntary Aid Detachments. A tuberculosis survey of England was undertaken on behalf of the British Red Cross Society. A handbook of tuberculosis schemes was prepared in 1916, and a fourth edition of the book was published in 1923. During the war the association urged on the War Office and other authorities the need for providing for the future care of tuberculous ex-service men. The proposals included the establishment of farm colonies, and of homes for advanced or dying cases. The association was able to establish the Burrow Hill training colony in Surrey, and to assist in the foundation of the Southfield sanatorium colony near Edinburgh. Through the activities of branches of the association a number of sanatoriums for the working classes have been opened in various parts of the country. The setting up of tuberculosis care committees throughout the country is regarded as a matter of immense importance, and as essentially work for voluntary associations. The care committees should help the tuberculosis officers to solve many problems for the sufferers from the disease, to re-create disorganized homes, to clear away conditions in which tuberculosis is bred, and to train and guide the young in the selection of suitable and healthy employment. The pamphlet contains many reproductions of photographs of sanatoriums and farm colonies founded by the association and its branches. There are also pictures of royal patrons and presidents, of the late Earl of Derby, and of Sir William Broadbent, the first chairman of council. There are some maps of Great Britain showing, for comparison, the distribution of tuberculosis in 1898 and in 1924. These maps are stippled or lined in various degrees to show local death rates per 1,000 of population. These maps may perhaps be useful for propaganda, but we venture to think that to the casual observer they are liable to be misleading. The 1898 map is heavily lined in almost its whole extent, with one very black patch in the South of Scotland. In the map for 1924 large tracts of country have become pure white, and there is a total absence of heavy lining and of black spots. Yet this represents a country in which over 40,000 people die annually of consumption. The explanation is that the white areas on the map represent a death rate of less than 1 per 1,000 of population, and do not mean that the areas are free from tuberculosis. The association does not, of course, claim that its efforts are the sole cause of the fall in the number of deaths in Great Britain from 70,000 in 1898 to 46,000 in 1923, but no reference is made to the decline in the death rate that occurred before the association began its activities. The statement in the Registrar-General's report for 1920 that there is an "ever-increasing acceleration of the rate of fall" is quite justifiably quoted as it stands. We recall that the drop in the phthisis mortality in the twenty-eight years from 1860 to 1888 was from 2.7 to 1.5. The present mortality is about 0.85.

INTERNATIONAL SOCIETY OF MEDICAL HYDROLOGY.

FOLLOWING a council meeting in London of the International Society of Medical Hydrology on March 3rd, a conversazione was held at the house of the Medical Society of London, when Dr. Gustave Monod, the president of the society, and Madame Monod received a large company of guests. An exhibition of hydrological interest, arranged by the staff of the Wellcome Historical Medical Museum, consisted of a gallery of old prints illustrating bathing establishments and their procedures in this and other countries, also relics or replicas from the baths and domestic water arrangements of the ancient Romans, and a collection of strigils, gathered over a very wide field of Europe and Asia. The strigil, it will be remembered, is an instrument, in wood or metal, used for scraping the skin at the bath. Another exhibit was a piece of wooden water-pipe of the seventeenth century found during excavations in one of the main thoroughfares of the city of Liverpool. A demonstration with the epidiascope was given to illustrate the life-history of silica, from the colloid to the crystalline form, and including what was described as the birth, life, and death of the opal. The lecturer, Mr. Lewis Abbott, F.G.S., explained how the chemicals taken up by the percolating waters gave rise to medicinal springs, and how the jasper and sapphire are related to the pebbles of the brook. One or two members of the society from abroad spoke in their own languages a few complimentary remarks, and a cinematograph film was shown depicting the events of the annual meeting of the society held last year at the invitation of the Czech Government and spa authorities, and attended by representatives of thirteen countries. Dr. Monod is now relinquishing the chair of the society, and in a few valedictory words he spoke of the pleasure it had given him to preside over a society which was founded in Great Britain, and which now had its members in twenty-four countries, having grown more quickly than its promoters had ever anticipated. The object of the society, he said, was to place on an increasingly scientific basis the oldest natural methods of treatment—water, air, and light, or, to quote St. Francis,

"Brother Sun, Brother Wind, and Sister Water." He also announced that the society would hold its next annual meeting in Italy in October next, and that its new president would be Professor U. Gabbi, a distinguished Italian hydrologist.

We regret to have to record the death of Dr. Corrado Da Fano, Reader in Histology, King's College, London. He was well known for his work in neurology. We hope to publish a notice of his life in an early issue.

"THE FATHER OF TROPICAL MEDICINE."

A Manson Memorial: Mr. Neville Chamberlain's Tribute.

At the Albert Dock Hospital, London, on Tuesday afternoon, March 15th, Mr. Neville Chamberlain, the Minister of Health, unveiled a tablet to the late Sir Patrick Manson. The tablet, which is placed in the ward where Manson for a number of years practised and taught, is a very simple work of art, embodying a medallion portrait in bas-relief, and the words: "Sir Patrick Manson, G.C.M.G., F.R.S., The Father of Tropical Medicine, Physician to this Hospital, 1892-1922." Among those present at the ceremony were:

Mrs. Carnegie (formerly Mrs. Joseph Chamberlain), Sir Ronald and Lady Ross, Dr. and Mrs. Manson-Bahr, Sir Humphry Rolleston, Sir James K. Fowler, Dr. Andrew Balfour, Sir William Simpson, Sir Wilmot Herringham, Colonel and Mrs. Alcock, Admiral Sir Henry Jackson, Dr. F. E. Fremantle, M.P., Dr. F. N. Kay Menzies, Professor C. J. Martin, Dr. A. G. Bagshawe, and the Chinese Chargé d'Affaires and the Siamese Minister.

Mr. Chamberlain, who was invited by Sir Arthur W. Clarke, chairman of the Seamen's Hospital Society, to unveil the tablet, described Manson as one of the great benefactors of the human race. His name had been familiar to him from the closing years of the last century, when his father, Mr. Joseph Chamberlain, appointed Manson medical adviser to the Colonial Office. In those days tropical diseases were little understood; the symptoms of many of them would not have been recognized by the majority of medical practitioners, and malaria, the greatest scourge of tropical lands, was supposed to be due to some poisonous exhalations arising in marshy districts. But Sir Ronald Ross was working out his observations upon the natural history of the malarial parasite, and eventually showed that the parasite was communicated from man to man through the agency of a species of mosquito, in whose body it underwent an essential part of its existence. That discovery was quickly followed by the initiation of measures for the destruction of mosquitos in fever-infested localities, and the mitigation, if not the total suppression, of the disease in many places where it had been almost impossible for the white man to live. This work was a tremendous stimulus to the imagination of the medical profession. A whole army of investigators entered into the field, and began to consider whether the establishment of the biotic connexion between man and living organisms in the propagation of disease might not have many other illustrations; their efforts were rewarded with extraordinary success. In medical science no one section could be isolated, and these discoveries, originating in the study of tropical diseases, had their repercussion in diseases of temperate climates, so that it was difficult to estimate the number of lives which had been saved in all parts of the world as a result of these relatively early discoveries in tropical medicine.

Of all the labourers in this field (Mr. Chamberlain continued) Patrick Manson might truly be said to be the father. He was a Scotsman, born in Aberdeenshire, originally intended for engineering, and embracing medicine because prevented by physical weakness from following the other profession. For twenty-three years he lived in China, on the island of Formosa, or on the mainland at Amoy, or in the British settlement of Hong-Kong. It would be difficult to find a less favourable environment for research work, cut off from contact with scientific society and overwhelmed with the routine of a busy practice; but he found time to pursue his observations upon the unfamiliar diseases of the East, with inexhaustible patience and ingenuity. The whole story of his work was told in the extremely interesting biography just published from the pen of his son-in-law Dr. Manson-Bahr, in collaboration with Colonel Alcock. Mr. Chamberlain thought the most dramatic incident in that story concerned the clue by which this medical detective arrived at a solution of his problem. He was examining the blood of many infected people suffering from filaria, and he employed two assistants, one of whom took samples in the daytime and the other in the evening. The second was singularly successful in finding the filaria, whereas the first had almost barren results, and from this discrepancy Manson discovered what might be called a periodicity in this organism similar to that which existed in the mosquito's habits. Manson came back to England in 1899, and three years later was appointed consulting physician to the Albert Dock Hospital. Mr. Chamberlain believed that it was only after his return that he became acquainted with Ronald Ross. With extraordinary generosity he offered Ross the results of his knowledge and experience, and gave him the utmost encouragement to pursue his investigations on the malarial parasite and the mosquito. A correspondence ensued between the two men, lasting over four years, and marked on both sides by a fine unselfishness, freedom from jealousy, and devotion to the public good. The association of Manson and Ross reminded him of that of Darwin and Wallace, in both cases a noble example of which their countrymen did well to be proud. In 1897 Manson was made medical adviser to the Colonial Office. He was impressed by the fact that medical officers went out to different parts of our tropical empire without any opportunity beforehand of learning of the diseases which were common there. In his efforts to remedy that state of affairs he was supported by Mr. Joseph Chamberlain, who had been appalled by the mortality among the officers sent out to West Africa and elsewhere: and there was a third party to the success of the project, the Seamen's Hospital Society. In 1899 the London School of Tropical Medicine was opened. It began with 27 students, and now 3,000 men had passed through it. In Manson was to be recognized a patient investigator, who greatly enlarged the sphere of knowledge, a very human gentleman, who was an example to those who worked with him and under him, and would remain an inspiration to those who came after him, and one of our great empire-builders not by reason of his conquest of other peoples, but by the victories he had won over some of the most distressing plagues which afflicted mankind.

The vote of thanks to Mr. Chamberlain was proposed by Dr. G. C. Low, senior physician to the hospital, who said that, strange to say, this teaching scheme met with unexpected opposition from some members of the medical profession in London. Sir Patrick Manson had shown his great strength by finally wearing down this opposition. Dr. Low also gave a description of the master among his students in the very ward in which the memorial was set up. The resolution was seconded by Professor R. T. Leiper, who said that for nearly twenty years he had the opportunity and the joy of working with that warm-hearted and inspiring personality whom they were honouring that afternoon. It was appropriate that the memorial should have its place in the ward of the hospital rather than on the wall of the adjacent laboratory, for Manson was first and foremost a great physician and a great teacher, and as a teacher he not only dispensed technical information while exhibiting his professional skill to his students, but laboured unceasingly to utilize his ever-increasing influence to secure privileges and opportunities for research for all who by their earnestness and sincerity appeared likely to profit by them. Mr. Chamberlain, in reply, said that he realized he was following a family tradition in taking part in that function that afternoon, and it would be the greatest happiness to him if in any way he could help in the furtherance of what was called the Manson tradition.

THE BLEACHING OF FLOUR.

IN June, 1924, the then Minister of Health, Mr. Wheatley, extended the reference of the Departmental Committee inquiring into the use of preservatives and colouring matters in food, and instructed it to consider "Whether and to what extent the practice of treating flour with chemical substances is objectionable on grounds of health, and whether it is desirable in the interests of the public health that the practice should be prohibited or restricted, and in the latter case what restrictions should be imposed." The Committee was constituted as follows:

Sir H. C. MONIO, K.C.B., *Chairman*; Professor W. E. Dixon, O.B.E., M.D., F.R.S., Sir A. D. Hall, K.C.B., LL.D., F.R.S., J. M. Hamill, O.B.E., M.D., D.Sc., P. A. Ellis Richards, F.I.C., Professor Sir F. G. Hopkins, M.B., F.R.C.P., F.R.S., G. R. Leighton, O.B.E., M.D., A. P. Luff, C.B.E., M.D., F.R.C.P., Charles Porter, M.D., B.Sc., G. Stubbs, C.B.E., F.I.C.

The Committee made an interim report, on the use of formaldehyde as a preservative for food, in August, 1924 (BRITISH MEDICAL JOURNAL, August 16th, 1924, p. 289), and the final report of the Committee on its original reference was published at the end of October, and noticed in the JOURNAL of November 1st, 1924 (p. 828). Its report on the additional reference has now been published.[1]

Perusal of the report shows that the inquiry was of a highly technical nature, and that it involved many commercial problems and questions of vested interests. The Bread Act of 1822 and 1836 makes it an offence to sell bread with other constituents than certain substances named, and although this was amended in 1922 in favour of self-raising flours, yet the treatment of flours with chemical agents has been continually increasing. English-grown wheat forms about one-fifth of the total milled in this country: the annual British milling output represents about twenty-two million sacks, the imports only five or six million sacks.

The characters necessary in flour used for bread making are that it shall have the capacity to make a large well risen loaf of good texture which shall be white in colour. Flours deficient in these characteristics are frequently treated with chemical agents which may be either bleaching agents or "improvers" or both. The principal bleaching agents in use are nitrogen peroxide, benzoyl peroxide, chlorine, and nitrogen trichloride. The last two substances are often called maturing agents; they both bleach and "improve," but they may be considered for discussion here as bleachers. Bleaching was introduced into this country about twenty-two years ago to meet a demand for white bread, particularly among industrial and manual workers in the North of England. Flour, after milling, changes slightly on keeping, its baking qualities improve, and its colouring matter is bleached. This natural ageing is probably an oxidation process, and imported flour from America and Australia is kept sufficiently long to exhibit this ageing effect. British flours, which cannot easily be kept because of the absence of storage facilities and because of expense, are in this respect at a disadvantage regarding colour; nevertheless, some imported flour is bleached before reaching this country. Hence the practice of bleaching enables millers to compete with importers of flour which has the natural advantage of ageing.

Bleaching Agents.

Bleaching eliminates the difference in appearance between the higher and lower grades of flour from the same wheat. The higher grades, which are obtained from the hardest part of the endosperm, called the semolina, are not only harder but produce a lighter coloured flour; these are known as "whites" or "patents," and total about 50 per cent. of the flour milled; the remainder are known as "households." From the latter and softer flour the offal is less perfectly separated. By the use of bleaching it has been said that a proportion of the "households" can be made to simulate patents, and a "longer range of patents" can thereby be obtained. It is said that a 60 per cent. extraction of the wheat can by means of bleaching be made to look better than a 50 per cent. extraction without bleaching.

Chlorine bleaches by combining with the colouring matter of the flour (carotin), but it also combines with other constituents of the flour. It is known that chlorine can act on the tyrosin and tryptophane groupings of the gluten complex with injurious results as far as the nutritive value of the gluten is concerned. Besides these there are other and more subtle substances in flour, the vitamins, which are known to be very susceptible to traces of chlorine; these also may be destroyed, and so impair the nutritive value of the food which contained them. Although these changes would occur probably in the commercial treatment of flour with chlorine to a limited extent only, yet it is a serious consideration in the case of a food so important as bread.

The same considerations apply to nitrogen trichloride. This body is much more highly reactive than chlorine, and the amount of it used per sack is consequently less. Nitrogen trichloride is introduced into the flour in air saturated with moisture. It is used in proportions varying from one to four grams per sack, and is converted to ammonium chloride and hydrochloric acid in the flour. It gives the effect of ageing in respect of bleaching, and it also improves the baking qualities of the flour.

Benzoyl peroxide, after bleaching the colouring matter in the flour, remains as benzoic acid, and although the amount is small it is better that flour should not contain benzoic acid.

Nitrogen peroxide, like the other bleachers, oxidizes the carotin in the flour. It is less reactive with proteins and fats than chlorine; it leaves nitrites in the flour, though very little—not more, perhaps, than two or three parts per million. The Committee regards nitrogen peroxide less unfavourably than the other bleaching agents.

"Improvers."

The substances used as improvers are principally chlorine, nitrogen trichloride, acid calcium phosphate, acid ammonium phosphate, and persulphates, besides extracts of malt and wheat germ. It is claimed for improvers that they enhance the natural baking qualities of flour by yielding well risen loaves of good volume and symmetry, of satisfactory texture, and of even aeration. "Strength" is the term applied to flours possessing this character, and it depends on the qualities of the contained gluten. Some wheats, notably English, are weak, but the properties of the gluten can be altered by the addition of certain salts and acids to the flour. It is claimed that by the use of improvers a more varied supply of wheats can be used and blended, and a flour of uniform baking quality thus maintained. It is claimed also that the improver promotes the growth of yeast, and so improves aeration. It is established that improvers do improve, though how they act is more difficult to define; one important factor is the degree of acidity expressed in terms of *p*H. It is known, for example, that acid phosphates cause dispersed gluten to cohere, but another explanation ascribes the gluten change to oxidation. On the other hand, the yeast-food type of improvers, like malt extract, are easier to explain, and their value is most pronounced in those flours that give a small loaf. Much, of course, can be done by judicious blending of weak wheats with strong wheats like Manitoba, but millers want to be in a position to take advantage of any wheat that is on the market on a particular day, and to be free to use improvers so as to be able to make the cheapest flours on that particular day.

Against the use of improvers it may be said that they are not normal constituents of genuine flour; phosphates do not, so far as we know, occur in the flour as such: improvers allow a larger number of loaves to be made from the sack principally by adding to the water: flour from weak wheats, which are usually poor in gluten, contains less protein than flour from strong wheats: by the use of improvers flour from weak wheats is made to simulate flour from stronger wheats, though it is inferior in protein content. The Committee expresses the opinion that millers "are content rather to use more of what they themselves would call inferior wheats, relying on chemicals to make up the baking quality to the old standard."

[1] H.M. Stationery Office, or through any bookseller, price 6d.

The saline improvers probably affect the composition of flour little, and the changes they produce are recognized only by the alteration of those characters which are responsible for strength in flour. Nevertheless, demonstrations were made to the Committee of the serious effect of acid calcium phosphate on the mucous membrane of the alimentary canal. The Committee did not, however, think that in the amounts in which it was added to ordinary flour it could be very harmful (0.3 per cent.).

Physical Methods of Improvement.

The Committee has had under consideration physical methods for improving flour, and thinks that the results already obtained in this direction are promising. For example, it has been shown that improvement in strength of a flour can be obtained by heating the flour under certain conditions; that is to say, flour overheated by artificial means itself acts as an improver. After a warm harvest English wheat produces a stronger flour than after wet and cold harvests; it is suggested that this may be due to partial heat-coagulation. But whatever the explanation, there is hope in the future that improvers will be diminished or eliminated by the addition of a proportion of physically treated flour to each sack.

The Committee concludes its report by stating that it considers that a staple and indispensable foodstuff such as flour, the purity and wholesomeness of which are of cardinal importance to the community, should be jealously guarded against unnecessary treatment with foreign substances, but is not prepared, on the present knowledge available, to recommend the complete elimination of the bleaching agents and improvers now in use.

It advises that chlorine, nitrogen trichloride, and benzoyl peroxide should be forbidden. It recommends that it should be compulsory for the manufacturers of chemical substances for use either as bleaching agents or improvers or both to declare to their purchasers the nature of the ingredients of which they are composed, and that millers should be required to inform their customers whether their flour has undergone a process of chemical bleaching or improving or both, and, if so, with what substances and in what proportion.

Scotland.

JUBILEE OF THE ODONTO-CHIRURGICAL SOCIETY.

THE Odonto-Chirurgical Society of Scotland celebrated its diamond jubilee at its meeting on March 11th, when a dinner was held in the Hall of the Royal College of Surgeons, Edinburgh. The society originated on March 13th, 1867. The toast of "The Society" was proposed by Dr. Parfitt, president of the Odontological Section of the Royal Society of Medicine, and the toast was acknowledged by the chairman, Dr. L. C. Broughton Head, L.D.S., president of the Scottish society. During no period in the history of medicine had there been so great an advance in knowledge and so beneficial an effect on mankind as in the sixty years of the life of this society. Three new sciences—bacteriology, radiology, and biochemistry—had grown up during this period, and all of them had affinities with dentistry. An important experiment in the education of the public in medical matters had recently been instituted by the British Medical Association by the establishment of the Hastings Lectures. The first of these was that on cancer, given by Sir Berkeley Moynihan (SUPPLEMENT, January 29th, p. 29) a few weeks ago to a large audience of the general public assembled in the Great Hall of the Association's new house. Sir Berkeley Moynihan had justly emphasized the necessity of the public seeking medical advice at the earliest sign, but the speaker ventured to think that something further ought to have been said of long-continued diseased conditions of the teeth and gums as an antecedent or predisposing condition to cancer, not only of the mouth, but of the important organs of the alimentary canal. He thought that in this matter the dental surgeon should sound a note of warning both to the public and to its medical advisers, and suggest that efficient dental treatment during early adult and middle life might play an important part in averting the onset of cancer in the later years of life. Mr. J. S. Amoore, L.D.S., proposed "The Royal College of Surgeons," and deprecated any lowering of the standard of examination for the licence in dental surgery. Mr. Alexander Miles, F.R.C.S., who replied, said that whatever political influence might be brought to bear the College of Surgeons would not allow the diploma of dental surgeon to deteriorate in any way. "The Edinburgh Dental Hospital" was proposed by Dr. G. T. Goldie and acknowledged by Dr. William Guy, F.R.C.S., dean of the Dental School. He said that on a recent visit he had conceived a great admiration for the dental institutions of America, but at the same time he felt that in this country, although no great sums of money were expended, a sufficient number of dental surgeons were turned out regarding whose competence there was not the slightest doubt. He believed that in the prevention of disease there was no more potent instrument than the dental surgeon.

GLASGOW ROYAL ASYLUM.

In his report to the annual general meeting of subscribers to Glasgow Royal Asylum Dr. Henderson, the medical superintendent, stated that 681 patients had been under treatment during the year, the average number resident having been 533. The problem of mental disorder and defect, he said, was more far-reaching than that of cancer, for which appeals were being made in regard to a combined attack on the causes, and co-operation in finding out the treatment of the disease. Mental disease similarly demanded co-operation between the medical profession and the public, because of its widespread direct and indirect effects. Treatment at the present time in many cases was too long delayed. If mental disorder in its beginnings were admitted instead of being hidden it would be easier to exert a beneficial influence on the individual's life. Students of medicine, teachers, clergymen, and the public at large should be made familiar with this fact, and education in the sense of character building should be the watchword of those who dealt with mental illness. People should be brought to recognize that mental disorder was not different from any other type of illness, and that it sprang, in the majority of instances, from modifiable factors.

ROYAL SAMARITAN HOSPITAL FOR WOMEN, GLASGOW.

A new wing has been added to the Royal Samaritan Hospital for Women in Glasgow, and the nurses' home has been considerably enlarged. These extensions were opened on March 4th by Lady Blythswood, who mentioned the great success of the bazaar held in 1924, when £78,000 had been raised in three days. Help had been received also from the police, who collected over £8,000, and from the staff and employees of the corporation tramways, who had contributed more than £1,200. Sir John Stirling-Maxwell, president of the hospital, gave a summary of its history during its existence of forty-one years, and referred to the fact that Dr. Halket, who was the first physician to the hospital, was now its consulting physician. The whole cost of the new building—about £80,000—would be met from the fund raised in 1924 and the interest which had accrued to it, though an additional annual sum of £6,000 would be required for the upkeep of the new wards. In spite of the fact that eighty new beds had been added to the institution by the present extension, there would still be a long waiting list, and he expressed the hope that a convalescent home might later be provided so as to enable patients to pass more rapidly through the wards.

SCOTTISH MIDWIVES BILL.

The text has been issued of the Midwives and Maternity Homes (Scotland) Bill. It consists of two parts, of which one amends the Midwives (Scotland) Act of 1915, and brings it into greater conformity with the practice of England,

while the second deals with the registration and inspection of maternity homes. An important clause (Clause 1) is that prohibiting anyone not a certified midwife under the Act from attending a woman in childbirth, otherwise than under the direction and personal supervision of a duly qualified medical practitioner. Except as regards attention given in a case of sudden and urgent necessity, attendance by any other person involves a penalty not exceeding £10. This does not, however, apply to persons undergoing training with a view to becoming duly qualified medical practitioners or certified midwives. In cases where a midwife has been suspended from practice in order to prevent the spread of infection, if she herself was not in default, authority is given in Clause 3 to the local supervising authority to pay her such amount by way of compensation for loss of practice as is reasonable in the circumstances of the case. The Central Midwives Board for Scotland may, if it thinks fit, divide the roll of midwives into two parts (Clause 5)—one containing the names of practising midwives supplied to the Board by local authorities in January of each year, which is to be published annually, and another part containing the names of other persons entitled to be on the roll, which will be published at intervals not exceeding five years. Power is also given to the Central Midwives Board to institute inquiries by registered letter addressed to anyone whose name is included in the roll with a view to finding out whether she has ceased practice or has changed her address, and failing a reply within six months, to erase the name from the roll. Power is also given to the Central Midwives Board for Scotland to frame a rule as to the wearing of badges by certified midwives (Clause 6).

The second part, dealing with the registration and inspection of maternity homes, is of more general interest to the medical profession. It provides (Clause 8) that any person who after the appointed day carries on a maternity home, unless that person is registered in respect of the home, shall be liable to a fine not exceeding £50, or in the case of a subsequent offence to imprisonment not exceeding three months. Application for registration is to be made to the local supervising authority and is to be accompanied by a fee of 5s. The authority is to have power to refuse registration where it is satisfied that the applicant is not a fit person, by reason of age or otherwise, to carry on a maternity home, or for any reasons connected with the situation, construction, accommodation, staffing, or equipment which appear in any way improper or undesirable in the case of a maternity home. The local supervising authority may also at any time cancel the registration of any person for any reason which would entitle them to refuse an application for registration (Clause 9). Before exerting this authority in either of these matters the local supervising authority shall give to the applicant or to the person registered not less than fourteen days' notice (Clause 10), setting out its reasons and giving the person concerned an opportunity of showing why such action should not be taken by the authority. The authority must also in such cases give the person an opportunity of being heard, and the order refusing an application or cancelling registration shall not come into force until the expiration of fourteen days from the date on which the order was made, or until an appeal has been decided or withdrawn. Any person aggrieved by an order under this section may also appeal to the sheriff within fourteen days, and the decision of the sheriff shall be final and be given effect to by the local supervising authority. Powers are also given, in Clause 11, to the Scottish Board of Health to make regulations with respect to records to be kept by the staff of the home, notifications of death, and prescribing. Persons contravening the provisions of such regulations shall be liable to a fine not exceeding £5, or, in the case of a continuing offence, to a fine not exceeding £2 in respect of each day on which the offence continues after the date of conviction. Maternity homes may be inspected by an officer authorized by the Scottish Board of Health (Clause 12). A local supervising authority may, however, grant exemption from the operation of this part of the Act in respect of a hospital or institution not carried on for profit or not used mainly as a maternity home (Clause 14).

Ireland.

CLEAN MILK SUPPLY.

GIVING evidence before the Advisory Committee (Irish Free State) on the milk supply on behalf of the Dublin Cowkeepers' and Dairymen's Association, Mr. J. Hanly, F.I.C., F.C.S. (chief chemist to Messrs. J. Bibby and Sons, Liverpool), said that the present presumptive standards of quality were unsatisfactory to the producer, the consumer, and the administrator. There were no means by which adulterated milk could, with certainty, be distinguished from milk of naturally poor quality. Consequently it was usually impossible to prove that adulteration or abstraction of fats had taken place. Criminal proceedings were not fitted to such cases, and the matter should be regulated by contract, the producer giving an undertaking to the local authority to deliver milk of a fixed minimum quality. Such minimum should take into account the normal seasonal variations in the composition of milk, and, in his opinion, might average 3.2 per cent. for fats over the full year. The remedy for failure should take the form of a rebate payable to the local authority by way of compensation for administrative cost of maintaining the contract standard, and of such amount as to render a breach of contract unprofitable.

COUNTY MEDICAL OFFICERS OF HEALTH (IRISH FREE STATE).

A deputation from the General Council of County Councils waited on the Minister of Local Government and Public Health, Mr. S. Burke, in connexion with the appointment of county medical officers of health for the Irish Free State. Senator Kenny, in introducing the deputation, said that, generally speaking, the attitude of the council was favourable. When the matter was first considered in 1923 the reports and recommendations of the Public Health Committee were discussed. One recommendation was that the net cost should be borne half by the State and half by the county council, and this was approved, but the Act of 1925 provided that the salaries of county medical officers were to be paid by the county councils, and charged on the area in which they acted. Some of the councils thought that the appointment of these officers should not be taken out of their control; the councils which opposed the scheme did so generally on the ground of the extra expense involved. They estimated that the new appointments would involve other appointments, and that the total cost might amount to £3,000. Various schemes, each possessing a considerable amount of merit, had been opposed on the plea that the financial position would not warrant any extra expense. The Minister, in reply, said that he appreciated the points raised; his department had always been sympathetic with the financial difficulties that arose. However, this scheme was now law; it had been passed by the Oireachtas, and it was his duty to enforce it. It was necessary to make a beginning, and three appointments had already been made. The present medical officers were not able to cope with the situation, particularly as regards the preventive side of the medical service. When fevers broke out the local officers had not got adequate machinery, as instanced by the present outbreak of typhoid in county Cavan, and of scarlatina in the counties Longford and Kerry. County medical officers would be able to deal with the situation. There was also the commercial aspect, which would become more important as time went on. At present the produce of the Free State enjoyed a very favourable position in the English market—better than any of the colonies. He did not want to be alarmist, but it was necessary to stress the point that if medical inspection in the Free State was not brought up to a level with the English inspection it was quite possible that produce would be put under a ban, particularly pork and butter. The report of an inspector from the United States of America upon some Free State meat factories was not very favourable. On the question of costs, he said that officers were being appointed, not to set up an elaborate public health machinery, but

to a great extent to avoid doing so. It was altogether an exaggeration to say that the cost would run into £3,000; 50 per cent. of any expense, other than the £800 salary, would be borne by the State. He also pointed out that the agricultural grant had been doubled in recent years.

England and Wales.

SICK AND AILING CHILDREN IN LIVERPOOL.

THE annual reports of the various children's hospitals and homes on Merseyside demonstrate the great amount of medical attention which is demanded. The out-patient departments of the Royal Liverpool Children's Hospital, Myrtle Street, and the Birkenhead and Wirral Children's Hospital dealt during the past year with nearly 30,000 new cases. This number is large, but mere figures, however steadily increasing as years go by, do not give an altogether just index to the increasing work. The development of prophylactic medicine is particularly marked in childhood, and an ever-increasing number of patients at hospital clinics are not seriously ill but are brought there as a preventive measure. The necessary medical detailed examination is often as a consequence exacting. At the Liverpool hospital an electro-cardiographic department has been established and the artificial sunlight apparatus extended; in connexion with the Birkenhead hospital a new convalescent home is to be opened during the summer. At the Heswall branch of the Royal Liverpool Children's Hospital extensive developments are in progress, which it is expected will ultimately add three new wards to this open-air establishment. Corresponding extra accommodation is being provided for residents, nurses, and maids. Both at this hospital and at the Liverpool Open-air Hospital for Children, Leasowe, an increasing amount of orthopaedic work continues to be done in conjunction with various authorities and councils. At the West Kirby Convalescent Home, at the Royal Liverpool Children's Hospital at Heswall, and at the city children's hospitals in Liverpool and Birkenhead, very large numbers of rheumatic cases are dealt with. During the past year the honorary physicians on the staffs of the four institutions, together with a small body of research workers, have determined and set in action a concerted plan of campaign dealing with rheumatic and heart cases, and in conjunction with the medical officers of health for Liverpool, Birkenhead, Bootle, and Wallasey are developing this work.

COUNTRY HOSPITAL FOR CRIPPLES IN NOTTINGHAMSHIRE.

The interest of the Duke and Duchess of Portland in the treatment of cripples in Nottinghamshire has led them to offer a site in Harlow Wood, between Nottingham and Mansfield, for the erection of a special country hospital school for cripples. A representative county committee has been formed, and it is hoped to raise the sum of about £30,000, of which £24,000 will be required for the building and £6,000 for equipping it on the most modern lines with an operating theatre and electrical and radiological departments. The locality is very suitable for treatment by fresh air and sunlight, and it is recognized that educational facilities must be provided. It is estimated that at present there are in the city of Nottingham alone more than 100 cripples who, for lack of such an institution, are unable to receive the prolonged residential treatment which they need, in spite of the activities of the out-patient clinic of the Nottingham Cripples' Guild, and the affiliated clinics at Mansfield, Newark, Worksop, Hucknall, and Loughborough. The new hospital will be the centre for all orthopaedic work in the district, and will undertake the treatment of inflammatory conditions of the bones and joints, deformities of all kinds, and the various forms of paralysis. The Nottingham Cripples Guild commenced its work in a small way with the provision of crutches, instruments, and bath chairs. Its present clinic in Park Row was erected at a cost of between £4,000 and £5,000, and was opened a year ago. Since then the average weekly attendance has been 274, the majority of the patients being children. The health, education, and Poor Law authorities have co-operated actively in its work.

Union of South Africa.

[FROM OUR CAPETOWN CORRESPONDENT.]

THE UNIVERSITY OF CAPETOWN.

AT the graduation ceremony of the University of Capetown in December, when the Vice-Chancellor (Sir J. Carruthers Beattie, D.Sc.) presided, the address was given by Professor W. A. Jolly, LL.D., D.Sc., dean of the Faculty of Medicine. In an eloquent plea on behalf of the extension of research work, referring in particular to medical science, Professor Jolly said it could justifiably be claimed that much advance had been made in medical knowledge in recent times. Diseases which were baffling until the other day could now be met and overcome, or, better still, prevented, but what could as yet be done was as nothing to what would be done when more was known, and increased knowledge could only be got by investigation. "Suppose," Professor Jolly continued, "you are attacked by disease and a cure is effected, you are naturally grateful, but if you are only cured and nothing more is done with your case, then you are justified in bearing a grudge against the medical profession. You may be attacked by the disease again and not recover, or your relatives or friends may die of it. If your case has not been studied and recorded with a view to our learning more about the disease, so that humanity in time may be rid of it, then the community has failed in its duty. It would be well that hospital authorities should grasp this aspect of the matter. If we take a broad view it is comparatively a small thing that individuals should be helped. We cannot be satisfied with the present state of affairs. The present, with its dirt, disorder, and disease, is a nightmare. We must work towards a happier, healthier world in the future, when we shall have the foul thing disease more effectually by the throat."

Prior to the constitution of the congregation, Professor Jolly was presented with the LL.D. hood and gown by the members of the Medical Faculty. The presentation was made by the Vice-Chancellor, and Professor M. R. Drennan also spoke.

INFLUENZA.

The Secretary for Public Health for the Union has issued the following circular as to influenza:

"I am directed by the Minister of Public Health to draw attention to the prevalence of influenza of severe and epidemic type in certain parts of Europe, the increase of notifications of and deaths from this disease in Great Britain, and the risks of introduction of the infection into South Africa.

"The greatest vigilance is being exercised, and all practicable measures and precautions taken at the ports of the Union to prevent such an eventuality, but the nature and extreme diffusibility of the infection of epidemic influenza are such that, short of wholesale quarantining of arriving vessels (which would entail enormous expense and paralyse the oversea trade of the Union), the exclusion of the infection at the ports cannot be guaranteed. It is therefore desirable that local authorities and all others concerned should review and overhaul their organization, facilities, and resources for dealing with a possible outbreak—especially as regards the enlightenment of the public as to the nature and dangers of the disease and precautions to prevent spread, the treatment and care of the sick in their own homes, and the accommodation, nursing, and treatment of cases requiring removal to hospital.

"This department is keeping in close touch with developments in Europe, and has arranged for obtaining weekly telegraphic reports during the continuance of the prevalence, and for the immediate cabling of particulars of any development of special importance in Europe; these reports will be published in the press, and all necessary steps taken to keep local authorities and the public of the Union fully and promptly informed. It is not thought that the position at present is such as to cause anxiety or to necessitate expenditure by local authorities on the employment of special staff or on stores or equipment (especially if of a perishable nature, or liable to deteriorate with keeping), but it does call for vigilance, preliminary preparation, and special activity as regards sanitary and housing conditions and overcrowding, and for the preliminary preparations for dealing with a possible outbreak."

Local authorities in Capetown are fully alive to the possibility of an outbreak occurring with little warning. The city council, it is satisfactory to note, has acted wisely in approaching the local branch of the Medical Association of South Africa, inviting the co-operation of the medical profession in the preparation of a scheme of emergency measures should the threatened danger materialize. The details of such a scheme are to be discussed at a special

meeting of the branch council of the Medical Association. The matter has been discussed also at a recent meeting of the Cape Divisional Council, a body which administers the affairs of the rural areas in the Cape peninsula.

KIMBERLEY HOSPITAL.

A service was held recently in the chapel of the Kimberley Hospital at which a memorial was dedicated by the officiating minister, the Very Rev. T. C. Robson, to the memory of the late Dr. E. O. Ashe, who was closely associated with the hospital for many years. The memorial, which is a beautiful rose-window, was given by Mrs. Ashe. It was designed by Mr. W. M. Timlin and executed in England by the Birmingham Guild.

The question of rendering the Kimberley Hospital fly-proof has been under consideration by the hospital board for some time, but financial stringency has so far prevented the scheme from being put into effect. Now the welcome intimation has been received that the De Beers Company is prepared to contribute a sum of £200 towards the cost of the project; this offer is the outcome of a promise made by the chairman of the board some six months ago. Without doubt this scheme when completed will add greatly to the comfort of the patients and staff, and the generosity of the company is on that account much appreciated.

APPOINTMENT OF A SUPERINTENDENT AT THE CITY HOSPITAL.

The wave of nationalism—the word is used not in any political sense—pervading the country at the present time is responsible for an unfortunate controversy which has arisen in local medical circles over the question of the appointment of an overseas applicant to the position of medical superintendent of the City Hospital for Infectious Diseases, Capetown. Following the resignation of Dr. W. P. Cooney, who held the appointment, the city council through its responsible committee advertised both locally and overseas for a successor. It would appear that seven applications were received locally and nine through the London agents. After due consideration, and having interviewed four of the South African candidates, the Health and Building Regulations Committee recommended to a meeting of the city council that a certain medical man from England be appointed. This evoked a heated outburst on the part of several councillors, who in very strong terms deprecated the fact that local applicants had been passed over. It was held by them that at least one of the latter was sufficiently well qualified and had had adequate experience for holding the position in question. After a lengthy debate, in the course of which accusations were made and apologies accepted, a ballot was held, the result of which showed 21 votes for the overseas candidate, and 14 and 1 respectively for the South African applicants whose names had been put forward along with that of the gentleman recommended. So far as the city council is concerned the incident now apparently ends, but it is more than likely that the last has not been heard of the matter in medical circles, this being only one of several instances where local authorities have endeavoured to import men for positions which, it is asserted, can be filled just as efficiently by local candidates. If and when the whole matter crops up for discussion again, be it in medical or lay circles, it is sincerely to be hoped that views will be expressed dispassionately, bearing in mind that in the making of any public appointment efficiency should always be the deciding factor, other things being equal.

India.

PUBLIC HEALTH IN CEYLON.

THE estimated population of Ceylon in 1925 was 5,009,502, of whom 10,212 were Europeans. The birth rate was 38.58 per 1,000, and the death rate 23.46. The infantile mortality in the thirty-three principal towns of the island was 216 per 1,000 births, as compared with 235 in the previous year; this improvement is attributed by Dr. J. F. E. Bridger, Principal Civil Medical Officer and Inspector-General of Hospitals in the island, to the activities of child welfare associations, the establishment of crèches in the principal towns and on the estates, and the teaching of mothercraft in the training schools for pupil teachers. In his annual report for 1925 on the health and sanitary condition of Ceylon Dr. Bridger states that 1,063 deaths were caused by malaria, as compared with 1,388 in the previous year. Antimalarial campaigns were in progress in several places, and the number of cases treated in hospitals and dispensaries decreased markedly during 1924 and 1925. A rapid survey of filariasis in the southern province was made at the end of 1925, and the distribution of infection was found to be very patchy, as had been previously reported in 1912 by Manson-Bahr. The campaign against ankylostomiasis is being continued jointly by the Government of Ceylon and the International Health Board of the Rockefeller Foundation. The survey of the island, commenced in 1924, has been completed, and mass treatment given, carbon tetrachloride in magnesium sulphate solution being employed for adults and oil of chenopodium in castor oil for children. In some cases the two remedies were combined, and proved very efficient in dealing with both hookworm and ascarine infections. An intensified scheme of treatment throughout the island is thought to be advisable, and active educational work by lantern lectures, distribution of literature, and meetings is suggested. Slow progress is being made in improving sanitation. The two leper asylums in Ceylon treated about 700 cases during the year. The number of patients with framboesia admitted to hospital fell from 6,149 in 1924 to 4,897 in 1925, as the result of intensive campaigns by eight itinerating medical officers, who treated 13,075 patients. During the early part of 1925 a training class in health and sanitation was held for police, headmen, and others, and the public health section organized in connexion with a horticultural exhibition was very well attended.

MEDICAL RESEARCH IN INDIA.

The fourth annual conference of medical research in India was held at the School of Tropical Medicine in Calcutta during December, 1926, and occupied four days. The president, Major-General T. H. Symons, C.S.I., Director-General of the Indian Medical Service, in opening the conference, reviewed the position of medical research in India, and explained how enlargement of the programme had become possible as a result of the full restoration of the Government grant. It was proposed, he said, to name the new experimental station at Karnal the Ross Experimental Station for malaria. A discussion afterwards took place on the steps to be taken to establish a permanent and efficient organization for the study and control of malaria. The lines laid down by previous conferences have already been adopted to a considerable extent by the Central Government, and the hope was expressed that provincial Governments would co-operate more closely in the future in some general scheme for India. Subcommittees dealt with improvements in the co-ordinated research work in connexion with plague and cholera, and mention was made of the new bili-vaccine method of treatment. It was stated, however, that in some parts of India the benefits of inoculation were becoming so much appreciated that a vaccine given by the mouth would probably be less popular. Reports of the work of the Kala-azar Commission and of the inquiry at the Calcutta School of Tropical Medicine were discussed, and satisfaction was expressed at the extent and value of the various investigations. Other subjects considered by the conference were tuberculosis, which is one of the more important causes of mortality in India; the investigation of sprue at the Haffkine Institute, Bombay; leprosy; the study of beri-beri in Burma and South India; and the almost complete survey of hookworm throughout India.

INDIAN SANITARY REPORT.

The annual report of the Public Health Commissioner with the Government of India for 1924 has recently been published in two volumes. The delay in its appearance is attributed to the late receipt of the Bengal provincial reports, when the Public Health Commissioner was a delegate in Europe at the International Sanitary Conference, Paris. The report has been

increased from eight to nine sections, and is somewhat differently arranged from that for the preceding year (1923). The sections dealing with the army, British and Indian, have been removed from the beginning to the end, and the report now begins with the section on the state of public health in British India. The new section, which is entitled "Medical intelligence and international health, including ports," is placed second.

In 1924 the birth rate fell from 35.06 to 34.45 per 1,000; the death rate rose from 25 to 28.49 per 1,000. Most provinces showed a birth rate higher than the quinquennial mean. Deaths numbered 842,235, more than in the preceding year, but the death rate also was below the quinquennial mean of 29.20. Registration of deaths is stated to be very imperfect. This probably applies more to the causes of deaths than to the actual number. But death registration is likely to remain imperfect until it becomes impossible, or at least difficult, to dispose of an unregistered dead body. The number of deaths really due to malaria is stated to be probably not more than one-third of the number registered under this heading. An interesting malaria map of India, compiled at the Central Malarial Bureau, Kasauli, is given in Section II. Tuberculosis is generally asserted to be on the increase in India, but the report states that there is no definite proof of this. There are eighteen tuberculosis sanatoriums in India, of which seven are in the Bombay Presidency. The provinces of Bihar and Burma have none, but Bihar has special wards for the disease in eight headquarters dispensaries. Cholera showed renewed activity, chiefly in the Gangetic plain, after two years' comparative quiescence; 1923 has shown the lowest mortality for thirty years. Plague mortality also was higher than for five years past, chiefly due to an epidemic in the Punjab, with 251,261 deaths, nearly five times the mortality of 1923. The United Provinces, Madras, Bombay, and Bihar showed a decrease. Rabies caused 2,044 deaths. There are four special institutes for the treatment of rabies—at Kasauli, Coonoor, Shillong, and Rangoon—besides which special arrangements for the treatment of the disease are in force at Calcutta, Bombay, and Lahore. Over 20,000 deaths were caused by wild animals. Snakebite accounts for 19,867 deaths, while all other animals caused only 2,587 deaths, tigers (1,174), wolves (419), and leopards (406) being the chief culprits. The total number of vaccinations rose by nearly a million to over ten millions, almost the whole increase being under revaccinations. Seven special research institutes were at work in 1923—Kasauli (two), Bombay, Madras, Coonoor, Shillong, and Rangoon. An eighth is mentioned in 1924, in Mysore State, but its chief work seems to be water analysis. A list is given (pp. 106-109) of special researches undertaken during the year; and near the end (pp. xxxvi-xlvii) a list of papers published in the *Indian Journal of Medical Research*. The number of medical institutions—that is, civil hospitals and dispensaries—increased from 3,634 to 3,669; the number of patients from 38,059,386 to 39,381,032; and the number of operations from 1,194,664 to 1,278,036. These figures give some idea of the scale on which charitable medical work is done in India. There were twenty-two mental hospitals, as lunatic asylums are now called, with a daily average of 7,605 inmates, including 738 sick. About one-third (2,501) were criminal lunatics. The total number is probably about 1 per cent. of the number of insane persons in India. There are seven medical colleges, one of which, the Lady Hardinge Medical College at Delhi, with 108 students, trains women only. The number of students in the others varies from 1,155 at Calcutta to 269 at Lucknow. There are also twenty-two vernacular medical schools, of which four are in Bengal, seven in Madras, and three in Bombay; four train women students only. The average jail population was 126,664. Both sick rate and death rate of prisoners show a slight decrease. There were no epidemics in jails during the year. British troops show a slight increase in admission rate, daily sick rate, and death rate. The death rate of 4.20 per 1,000, however, was lower than that of any previous year except two—1913 and 1923. For venereal disease the admission rate decreased to 68.9 per 1,000. That for Indian troops was only 22.3. For Indian troops the admission rate (423.1 per 1,000) and the average sick rate (18.05 per 1,000) were both the lowest on record. The death rate (5.73) and invaliding rate (12.8) were below those for 1923, but still in excess of the 1910-14 quinquennial period. One-third of the sickness among Indian troops was due to malaria. The report states that "the financial outlay on the Indian station hospital scheme is being justified from year to year."

Correspondence.

THE THYROID AND MANGANESE TREATMENT IN ACUTE PNEUMONIA.

SIR,—Whatever be the value of this treatment (in pneumonia or other conditions), it is not of importance that strings of mucus, "even mucous casts of the bowel," be afterwards passed. The rectum and colon of many healthy, if costive, people would thus react.

I am not informed on Dr. Nott's treatment of pneumonia by thyroid and manganese (this being the subject of the paper by Dr. Roche in your issue of March 12th), but reflect that many treatments, sometimes any treatment, produce excellent results. Unfortunately, at times, all fail—in pneumonia. And the cases quoted by Dr. Roche in support of Dr. Nott's treatment are not impressive, and, so far as the charts go, do not convey the idea of serious illness, but of a favourable condition running a natural course towards recovery, which would have been achieved by any form of simple treatment. In no case did the temperature reach 104°, nor the respiration rate 40, nor the pulse exceed 130, according to the charts. In fact, I do not understand the charts. I have yet to see an infant of 15 months, with double bronchopneumonia, and weakened by measles, with a respiration rate of only 36 and a pulse of only 130. This was on the first day of treatment, I understand, and after twenty-four hours there was no change in pulse or respiration, and the temperature had not fallen one degree. Case III is even more extraordinary in these respects. Whatever the clinical condition was, the facts as disclosed by the charts, so far as they go, suggest mild cases, running a favourable course.

While indebted to Dr. Roche for his communication, I feel, as no doubt others do, that the greatest care must be exercised in deducing the effect of the treatment in a series of cases so simple (by the charts) as these were. I am sure Dr. Roche will agree, and welcome the criticism I offer.—I am, etc.,

Glasgow, W.2, March 13th. R. O. ADAMSON.

TUBERCULIN IN THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS.

SIR,—The article which appeared in the JOURNAL of February 19th (p. 340), headed "Tuberculin in the prophylaxis and treatment of tuberculosis," especially that first part of it which deals with prophylaxis, is, in my opinion, one of the most important and stimulating publications which I have read in recent years.

I will quote two passages which are worthy of the most serious consideration, not only in regard to the stamping out of tuberculosis, but in the removal possibly of all other widespread infectious diseases also.

The first is as follows: "The control of an infectious disease may be attempted in two ways—first, by exterminating the germ which causes the infection; secondly, by immunizing, or raising the resistance of, potential sufferers from the disease." And the second, dealing with the modern procedure in regard to tuberculosis, states: "The object of all these measures is to prevent the dissemination of the tubercle bacillus. They have had some success, but it is very far from being complete; so widespread is the disease that many doubt if it ever can be; and not a few experts in the disease hold that if the measures were successful the result would be a community intensely susceptible to chance introduction of infection. If they are correct it would follow that the only way to check the ravages of tuberculosis must be by some form of immunization."

There is nothing absolutely new in either of these statements, but yet the subject is put in such a clear and concise form that it would be difficult to overestimate the importance of the question raised. Hitherto, I am afraid, a good many of us have been unable to see the wood for the trees, but here we now get a clear bird's-eye view of the whole forest.

The question arises whether we have not been devoting far too much attention to exterminating the tubercle bacillus, to the neglect of the most efficient method of combating the disease—namely, by developing in the community a high degree of immunity. This latter should now be our war-cry, and we should not rest until the immunity developed is so great that the tubercle bacillus, which is now a pathogenic organism of high virulence, has been rendered non-pathogenic and harmless.

Syphilis was a deadly scourge in Europe during the Middle Ages, and is still a serious disease in this country. Along the littoral of the Mediterranean, however, especially on the African coast (where I understand the infection is found in upwards of 80 per cent., if not more, of the population), the disease has become so mild that it is not now taken seriously, and late manifestations are quite rare.

Again, trypanosomiasis, which is so deadly to the domestic cattle in certain parts of Africa, produces no symptoms in the wild cattle inhabiting the same areas, although they are equally infected. This is not due to any weakening or loss of virulence on the part of the virus, as when the same has been transferred to a susceptible subject he develops the disease in all its strength, but is the result of prolonged immunization extending over several generations.

Your valuable space will only allow me two further illustrations, but they will suffice. Malaria, which is severe and often deadly amongst white people, is almost non-pathogenic in the coloured populations of the malarial countries; and small-pox, which was the terror of England in the middle of the eighteenth century, is now, after over one hundred years of vaccination, showing itself as quite a mild disease, as witness the recent outbreaks in the North of England, where even in the unvaccinated it is to a large extent benign.

I am not suggesting that we should abandon our efforts to find a means of arresting the disease in persons already suffering from tuberculosis; far from it. I think we should persist for the sake of those who will suffer until the immunity has been developed; but I am most strongly of the opinion that the time is now ripe for a great campaign of preventive medicine, the ultimate objective of which is the changing of the tubercle bacillus from a highly pathogenic into a non-pathogenic organism. The road is clearly defined for us, and a beginning has already been made by Calmette and others.

As this question is of transcendental importance, it behoves all States which have the interests of their people at heart to begin forthwith and establish institutions for the study of immunity.

Team work and concerted action should be so developed that the subject could be tackled from every possible direction, and all the different institutions in all the different States should work together, arranging between themselves as to the distribution of the work. Generations may be required before the objective is fully achieved, but even a hundred or more years would be well occupied if at the end tuberculosis could be considered a thing of the past, and in the meantime a steady improvement could be looked for.—I am, etc.,

Corbally, Limerick, March 13th. E. G. FENTON.

MALIGNANT DISEASE OF THE THROAT.

SIR,—As one to whom it has fallen to have to deal with a large number of cases of malignant disease of the throat, I write to impress upon general practitioners, to whom these present themselves in the first instance, the great, the vital importance of the recognition of the earliest stages of the disease when removal by one or other method is distinctly hopeful. I am impelled to this by the case of a patient whom I have seen to-day: a man with a growth in his pharynx, suitable for removal by surgical diathermy, but he has a large mass of glands in the neck so extensive that even a large dissection could not eradicate them. This is by no means an isolated case. One hesitates to use strong language, but in view of the seriousness of the question I feel justified in saying that the delay in arriving at, or in obtaining by reference to those who are competent to give, a definite and early diagnosis in patients suffering from symptoms which may be due to malignant disease of the throat is inexcusable nowadays, when for a number of years special instruction in diseases of the throat has been a part of the medical curriculum.—I am, etc.,

Glasgow, Feb. 28th. W. S. SYME.

PHARYNGEAL DIVERTICULA.

SIR,—In the JOURNAL of January 8th (p. 79) Dr. William Hill questioned the grounds on which, during the discussion on his paper on "Pharyngeal diverticula" at the Annual Meeting of the British Medical Association at Nottingham last year (BRITISH MEDICAL JOURNAL, December 18th, 1926, p. 1163 et seq.), I objected to the case published by Sir Rickman Godlee and Mr. Bucknall in 1901 being described as a pharyngeal diverticulum.

I replied to his criticism in the issue of January 15th, and stated the grounds on which, from the clinical and anatomical standpoint, the tumour in this case could only be looked upon as a laryngeal air sac, and that I was prepared to admit the pharyngeal origin of the sac if the microscopic section could be traced, and if definite muco-salivary glands were, as stated, proved to be present. I had not, at the time, considered the question from an embryological point of view.

I now find that the microscopic slide to which I referred has unfortunately been misplaced among the many thousand others at University College Hospital. There is a note, however, by Mr. Lawrence at the museum of his having received the specimen, which is entered as a "pharyngeal or laryngeal sacculus," the latter being deleted; it is therefore evident that the possibility of its being an aerocele was considered at the time.

I was on the point of supplying further proof of the laryngeal origin of this tumour, from an embryological point of view—namely, the relationship of the carotid vessels and superior laryngeal nerve to the canal of the sac—when an unexpected meeting with Sir Arthur Keith, on January 17th, brought to light the following remarkable and somewhat dramatic story, which I think it will be admitted settles the present discussion in my favour. The story runs that on the Sunday following the publication of Godlee and Bucknall's paper in the *Lancet* (1901) he (Sir Arthur Keith) wrote a letter to Godlee, and pointed out that the description and anatomical relationship of the tumour left no doubt whatever that it was a laryngeal air sac; to which Godlee replied, accepting this opinion, and admitting that he was wrong in describing it as pharyngeal. Unfortunately Godlee does not appear to have taken any steps to correct his mistake. If this had been done, and Keith's opinion recorded, the present controversial, but friendly, discussion would not have arisen.

The reconsideration of this case has led me to examine further Dr. William Hill's recent classification of pharyngeal diverticula, and especially the group which he describes as "Congenital lateral pharyngeal diverticular sinuses and aeroceles of abnormal branchial cleft origin," or, again, as "Congenital lateral post-faucial diverticula (synonyms: Aeroceles; branchial diverticula)," usually opening by a mouth in the region of the palato-pharyngeal fold just behind the tonsil.

Dr. Hill, in his paper, says, "it is only very exceptionally, however, that a sinus passing into the neck from an internal pharyngeal orifice expands into an aerocele," and refers to Godlee and Bucknall as having published such a case (the case discussed above), and that they also mentioned a number of recorded cases in which an internally opening sinus had developed into a well marked diverticular aerocele, which presented as an obvious air-filled swelling in the neck. He also draws attention to two of the cases referred to by Godlee and Bucknall as coming under the

same group—namely, one recorded by Watson of Edinburgh in 1875, and another by Wheeler of Dublin in 1886.

The case recorded by Watson as a "remarkable pharyngeal diverticulum" cannot be described and accepted as a cervical aerocele, for there is undoubted evidence that it was a branchial cleft sinus with a dilated saccular or cystic extremity. It originated behind the position of the thyro-hyoid membrane, and such a diverticulum never contains air (Keith). It corresponded in position to the embryonic cervical sinus. Watson himself suggested the possibility that it was a visceral cleft abnormality.

Sir Arthur Keith states that every air-containing sac in the neck which perforates the thyro-hyoid membrane has only one origin, and that is the sacculus laryngis, and that no cervical air sac ever originated in the pharynx; they are all laryngeal and originate from the sacculus laryngis. He further says he has never met with an example, or any evidence, of an air-containing sac in the neck having any other origin, and that there is no such thing as an air-containing pharyngeal diverticulum of developmental origin.

Wheeler described his case as a "pharyngocele with dilatation of the pharynx," and the tumour in the neck as "a sort of aneurysma herniosa" of the pharynx. He expressed his opinion that the primary cause of the tumour was the violent exertion of the voice (the patient was a military man with a stentorian voice, who prided himself on the fact that he could drill an entire brigade by his own word of command), which first led to dilatation of the pharynx, and then some violent effort produced a slight protrusion of the mucous membrane, which became further stretched by food and drink getting into it.

Wheeler mentioned that the internal orifice of the sac, which opened precisely upon the site of the sinus pyriformis, was so large that a complete view of the larynx could be seen through it—that is, the epiglottis, ary-epiglottic folds, vocal cords, etc. He also described the orifice as being entirely bounded by the following muscles: the superior constrictor above, the middle constrictor below, the palato-pharyngeus anteriorly, and the stylo-pharyngeus posteriorly. These boundaries, therefore, place the orifice above the great cornua of the hyoid bone. Dr. Hill in his paper refers to the stalk or canal of the tumour as having been traced upwards between the two carotids. No statement of this kind was made by Wheeler in his original publication, and it is evident that this description belongs to the case which Watson recorded, and which confirms the fact that his case was a branchial cleft diverticulum.

In his classification Dr. Hill places Wheeler's case under the group of congenital lateral post-faucial diverticular aeroceles of embryonic branchial cleft origin. In my opinion, and I am supported by Mr. Lawrence, the tumour in this case should be described as a "lateral pharyngeal pressure diverticulum or pulsion pouch."

The case therefore contradicts the general statement, accepted and repeated by Dr. Hill and others, that the mouth of a pharyngeal pouch is *always* in the deep pharynx, and invariably situated posteriorly and mesially at the line of junction of the upper oblique and lower transverse fibres of the inferior constrictor muscle, as is the case in those commonly met with and described.

The late Professor S. G. Shattock[1] stated in 1923 that he did not agree that these pouches always arose in the middle line. He knew of one specimen in which "the situation of a lateral pouch was immediately behind the posterior border of the thyroid ala."

It is obvious, therefore, from the points enumerated and the opinion expressed, that the three cases quoted by Dr. Hill cannot be described as cervical aeroceles, and that the term "aerocele" should be deleted from the group of congenital lateral pharyngeal diverticular sinuses of abnormal cleft origin; and further, that all diverticula which pass through the thyro-hyoid membrane contain only air and no food, and are outgrowths of the sacculus laryngis.—I am, etc.,

London, W., March 1st. IRWIN MOORE.

*** The correspondence on this subject in our columns may now be considered at an end.

[1] *Proc. Roy. Soc. Med.* (Sect. Laryngol.), 1923, xvi, pp. 41, 42.

PATENTED RESEARCH.

SIR,—Your editorial comments (March 12th, p. 479) upon the taking out of a patent by the Dicks are timely, and I should like to elaborate the points, having had some small experience of patents—non-medical, of course.

It is quite possible to patent something which is of no practical value, but which may later prove to be a necessary step in the manufacture of something of great practical utility; in such a case the owner of the earlier patent can "hold up" the whole business until he is bought out or given a share of the royalties. Wireless telephony is the most prominent example in recent times.

I hope shortly to publish further results of treatment with residual vaccines. This type of vaccine would furnish an example of the state of affairs that would arise if I had attempted to patent the process of preparation, and certain other workers had also patented their original work. The oxidation process would be the property of Professor H. R. Dean, the washing would belong to Dr. David Thomson—with the proviso that Michaelis might lodge an objection on the grounds of prior use of acid agglutination and precipitation.

It should not be forgotten, however, that one cannot in this country obtain a patent for the use of a remedy to relieve human suffering; the law would only grant protection to some special method of preparing the remedy, and it is very doubtful if the utilization of the special streptococcus of scarlet fever is patentable at all. It is certain that the preparation of a serum for the cure of scarlet fever is not patentable.

The first of these patented remedies was insulin, I believe, and the Canadian patent was presented with a great flourish of trumpets to the Medical Research Council; it would be interesting to know if the Council applied for an English patent under the International Convention, and if one was granted. If the English patent exists it can only refer to the process of manufacture.

It appears to me that even if this system of protecting one's work becomes common it will not be of much real use to the owners of the patents, because the inability to prevent unauthorized use for human treatment will enable anybody to drive a coach and four through most of the patents.

At the same time, the probable angle at which the Dicks look at the matter can be surmised. They see great commercial concerns selling the remedy to the profession, and the public paying huge sums in fees for its use, whilst they get nothing out of it. The public professes a great admiration for the noble work of our profession, but regards the question of fees from a strictly business standpoint.

The only section of the community that has any moral justification for raising an outcry against the patenting of medical research is our own profession, particularly pathologists and other research workers. The lay public—and Big Business in particular—would have no just grounds for complaint.—I am, etc.,

Manchester, March 12th. C. E. JENKINS.

SYSTEMIC TREATMENT OF CANCER.

SIR,—With reference to the remarkable results stated by Dr. Coley in his letter, published in your issue of January 29th (p. 211), I have been hoping that there would have been letters from surgeons in charge of cancer wards, and others, relating their experience with Coley's method of treatment of cancer by means of the mixed toxins of erysipelas and *Bacillus prodigiosus*. I would especially call attention to the following paragraph in Dr. Coley's letter:

> "In a recent follow-up of ninety-three cases of inoperable sarcoma treated with the toxins alone I find sixteen patients have remained alive and well from eight to thirty-three years, and twelve from ten to thirty-three years."

Since inoperable sarcoma means (except in rare instances) inevitable death, these results are most striking.

It is important that we medical officers of health, who are expected to assist in the launching of cancer campaigns, should know what is being done in this country with regard to this form of treatment, which Dr. Coley mentions has also been used successfully in a number of inoperable cases

of carcinoma. It must be remembered that the majority of cancer deaths are due to internal cancers which cannot be, or are not, diagnosed sufficiently early to permit of successful operation.

I would suggest that Dr. Coley should publish in detail the technique of his methods, so that the information may be available for all practitioners who have cases suitable for his method of treatment, the dangers of which, he points out, are practically *nil*.—I am, etc.,

County Offices, Dorchester, March 1st. J. E. ROBINSON.

*** Dr. Coley's treatment of inoperable sarcoma by the injection of a mixed suspension of *Streptococcus erysipelas* and *B. prodigiosus* aroused considerable interest some time back. He stated his views fully to the Section of Surgery of the Royal Society of Medicine in July, 1909; a very good and full abstract of his paper appeared at that time in our columns (JOURNAL, 1909, vol. ii, p. 144), and the complete text was published in the *Proceedings of the Royal Society of Medicine*, 1910, vol. iii, Part III. Dr. Coley gave details of his technique and its successful employment in fifty-two cases of sarcoma. He stated that the changes in the tumour were the same whether the bacterial toxins were injected directly into it or into remote parts of the body, thus indicating that their action is systemic rather than local. He suggested that this treatment was also likely to be useful as a prophylactic against the recurrence of carcinoma after operation, and added that he had obtained some little evidence of its efficacy in dealing with carcinomatous growths. In his recent letter, to which Dr. Robinson refers, Dr. Coley mentioned that he has a book in preparation which will contain a complete report of his results to date, including a number of cases of carcinoma in which the tumours entirely disappeared as the result of this treatment.

WIRELESS MEDICAL CONSULTATIONS AT SEA.

SIR,—I enclose copy of suggestions I recently sent to the Board of Trade (Mercantile Marine Department) by request.

1. All medicines for internal use to be carried in the form of concentrated stock mixtures (two or three of which to contain opium, etc., within the limits of the Dangerous Drugs Acts), pills, and tablets. This would prevent misuse of sedatives, avoid difficult dispensing, and be more effective. I consider that eight or ten formulae for mixtures, eight or ten for tablets, and six or eight for pills would be ample, and, of course, salts and quinine.

2. Chief stewards should have the first aid certificate, and have two or three lectures on simple nursing and on the medicines carried. It falls to their lot to look after any sick.

3. The first aid course should be more like the navy one than that of the St. John Ambulance Association.

4. A more frequent inspection by a Board of Trade medical officer. I have never heard of one.

Dr. Lillingston's letter in your last issue shows the chaos the subject is in.—I am, etc.,

Brighouse, March 14th. F. F. BOND.

BREATHING EXERCISES WITH MOVING ARMS.

SIR,—A sentence in Surgeon Commander Horace Hill's paper (March 5th, p. 422) calls for comment. "Neither, when the arms are raised, can any pull occur on the ribs to elevate them, any muscles tending to oppose the raising of the arms being elongated and their tone inhibited (Sherrington's proprioceptive reflex and reciprocal action of antagonistic muscles)."

But when one sits in a chair and palpates the tendons of the hamstring muscles, one finds that on extending the leg on the thigh, with the elongation of the hamstrings, the tension of their tendons increases: thus, the tension of the hamstrings must increase, so that they are not inhibited. Again, if with the elbow flexed and the arm so held that the elbow points upwards (to put the effect of gravity on the biceps and of torsion on the joint out of court), the tendon of the biceps of the arm is palpated by grasping it between a finger and thumb in the anticubital fossa, one finds that on extending the forearm on the arm the tension of the biceps tendon increases in spite of the fact that the muscle is elongated. And if one lies on the back and palpates the pectoralis major muscle by grasping it in the anterior fold of the axilla, with the arm in a position of adduction, and then moves the arm into abduction, it is found that with and during the movement, as the pectoralis major is being extended (that is, elongated) its tone—its tension—that is, its state of contraction, progressively increases.

How, then, can it be said that raising the arms does not elevate the ribs, causing, or tending to cause, an expansion of the chest, and, if the glottis and diaphragm permit, an inspiration? We know very well that such movements do have such effect, and for this reason are commonly employed for artificial respiration. How do they cause inspiration, if not by the effect of the movement on the tone—on the tension—of the pectorales?

Many other instances of this "action" of muscles "opposing" a movement exist. Thus, on inspiration (with fixed thorax), with the descent of the diaphragm, the belly wall bulges and the recti abdominis become harder (Keith) (that is, more contracted). As the erect individual stoops, the erector spinae become longer and yet are more contracted (Zuckerkandl) (as they obviously must be—for they have to do greater work). As the pelvic floor descends during straining (for example, during defaecation and parturition) the muscle fibres of the levator ani, though they become longer, become more contracted (Halban and Tandler). So also we see that during pregnancy the flank muscles of the belly wall become so elongated and so resist the elongation that not only they but their aponeuroses suffer, producing a muscle weakness and a separation of the recti (regression). If the flank muscles were simply "inhibited" and simply elongated, no separation of the recti would occur.

Can, then, the doctrine of the reciprocal innervation of antagonistic muscles stand? Or are the experiments on which this conception is based (at least those adduced in that most interesting book *The Integrative Action of the Nervous System*) open to another interpretation? Do the phenomena I have mentioned throw light on Thomsen's disease, and on the difficulty of movement experienced by individuals who are "muscle bound"? Is not the muscular state of an individual poisoned by strychnine but an exaggerated picture of the normal? Or is it, as has been suggested, an exception? Perhaps, after all, the "inhibition" (the dying away of the tonic contraction) of a muscle or of a muscle group opposing a movement is the exception—the active participation of opposing muscles in a movement being an absolute necessity for "co-ordinated," that is, precise movement. (Compare tabes dorsalis.)—I am, etc.,

Rugby, March 6th. R. H. PARAMORE, F.R.C.S.Eng.

RESISTANCE TO QUININE IN MALARIA.

SIR,—Sir Humphry Rolleston's reference to the extremely resistant character of malaria to quinine treatment during the war in the Macedonian area (January 15th, p. 89) raises certain questions.

The past malarial season in the Punjab, India, has been a very bad one, and has provided more material for discussion than could be satisfactorily dealt with in full scientific and statistical manner, and I am therefore unable to give figures in support of my statements. Cases diagnosed malaria (almost invariably benign tertian or malignant tertian, or both) as a result of microscopic examination were immediately treated by quinine sulphate, and in the large majority this led to the condition being brought under control. In practically all cases where the pyrexia did not yield to this treatment, urinary examination revealed that no quinine was being excreted by this channel, and presumably, therefore, was not being absorbed, Substitution of quinine hydrochloride, or the bihydrochloride, resulted invariably in a fall of the temperature to normal, and in the appearance of quinine in the urine.

This suggests to me that it was not a question of the malarial parasites being resistant to quinine in the war area in question, but merely lack of absorption of quinine; medical officers in the area were too overworked to study each individual case after being satisfied that the condition

was malarial, and often lacked previous experience of tropical diseases.

The time available for the study of this question was not very great, but I raise the point in the hope that others with similar experience may investigate it.—I am, etc.,

February 11th. I.M.S.

THE AFTER-TREATMENT OF MASTOID OPERATIONS.

SIR,—In your issue of February 26th (p. 375) Mr. A. J. Wright has drawn attention to the advantages of ambrine, or the *British Pharmaceutical Codex* paraffin No. 7, as a dressing for the radical mastoid cavity. Originally suggested by Daure in 1917, the method has received the strong support of Liebault, who published results in the *Revue de Laryngologie*, vol. 45, No. 7, 1924. Probably this is the reference which Mr. Wright desires. Liebault does not commence the ambrine treatment until the sixth or eighth day after operation. He renews the dressing every second day, and states that within a fortnight the cavity is almost dry and lined with epidermis. Although my personal experience of the method is small, the results have been most encouraging.

The "simple" or Schwartze operation has been robbed of its terrors by immediate suture following the use of bipp paste. May we not hope that a similar revolution in regard to the "radical" operation may be achieved when otologists recognize the value of the paraffin treatment?—I am, etc.,

Edinburgh, March 7th. DOUGLAS GUTHRIE.

INFLUENZA AND ALBUMINURIA OF PREGNANCY.

SIR,—There must, I think, be some more than casual relationship between influenza and albuminuria of pregnancy, even if it does not amount to cause and effect, which I feel is not improbable. I have had a number of cases of albuminuria of pregnancy passing through my hands during the last few weeks whilst the epidemic of influenza has been with us, and on looking through the hospital records I see the same was true during the epidemic of 1919. Then I put it down to a different cause, but I think I was wrong in view of my present experience. At that time I assumed it was the result of pregnant women getting back to a more generous diet than had been possible during the war.

I should be interested to know if the experience of others has been similar to my own during this and the previous epidemic, and why it is that the pregnant woman only is affected in this way.—I am, etc.,

Ipswich, March 10th. JOHN GUTCH, M.D.

PUERPERAL SEPSIS.

SIR,—I am obliged to Dr. Oxley for drawing my attention to a seeming misinterpretation of the table given in the East End Lying-in Home for the year 1925. By sepsis I mean puerperal sepsis. My figures were on that basis for both this home and the Glasgow Maternity. To satisfy Dr. Oxley, let me now give the figures for the relative *deaths* from sepsis. In 1925 one patient (ill before admission) died from sepsis; outdoor none. In Glasgow the deaths were: indoor 26, outdoor 8. In forty-one years in London there have been 3 deaths from sepsis indoor, against 866 in Glasgow; and not one death outdoor, against 328 here.

I agree we are all striving to reach the ideal of no sepsis, but Dr. Fairbairn quoted this home as an example of what could be done by the general practitioner, and I ask him how his figures compare with it, and I ask Professor Kerr the same. Is this unfair?—I am, etc.,

Dennistoun, March 12th. JAMES COOK, M.B.

DR. ARCHIBALD CAMERON.

SIR,—As must often happen in the case of the vagabond members of the Association, my weekly copy of the JOURNAL often follows an erratic course before it reaches me—for example, the issue of December 4th, 1926, has only come into my hands to-day; hence this delay in writing.

On page 1056 of that issue, under the heading "Medical Criminals," appears a report of "an address on some well known medical criminals," given by Dr. L. A. Parry. Now, Sir, I do not accuse Dr. Parry of deliberate malice; but am wishful to enter my protest against the inclusion of Dr. Cameron in the same category with poisoners, with other kinds of murderers, and with mob leaders and burglars.

Archibald Cameron and all of his brothers, the eldest of whom was chief of his clan, were royalists: no doubt the members of the Hanoverian faction professed to regard them as traitors; but had the royal arms been fortunate instead of unfortunate in 1745, the King would have come back to his own again and the Hanoverians would have been traitors before the law. It is notorious that Dr. Cameron freely gave his services to the wounded of both sides and that many Hanoverians gave their cordial testimony to his humanity. After he had escaped to France in 1746 (he was a member of the prince's party, including Lochiel himself and the father of Napoleon's famous marshal, MacDonald, who escaped from the West Highlands by the French brig) he, carrying his life in his hands, returned to Scotland on three occasions on his royal master's business, the father of the latter, James VIII and III, being still alive. On the third of those occasions he was sold by the despicable Puckle the spy (young Glengarry, from whom, however, the present house of Glengarry is not descended); he was taken south and executed in London on June 8th, 1753; he remained loyal to the end; and even the bitter sort of the Hanoverians themselves regarded his execution as a judicial murder. Wherever pristine loyalty is cherished he is known as the last of the Jacobite martyrs. His name is not one to be mentioned with names of poisoners, etc.—I am, etc.,

January 27th. NOMADIC DOCTOR.

*** On the proverbial saying "Treason never prospers" somebody a few centuries ago made the couplet:

> Treason doth never prosper. What's the reason?
> If it prosper none dare call it treason.

This seems to put our nomadic correspondent's argument pithily and wittily. Amid the fierce passions of the eighteenth century the prudent man chose his party with care, but in justice to Dr. Parry we must recall that he was careful to put those accused of high treason in a class by themselves. We have shown this letter to Dr. Parry, who asks us to offer his sincere apologies to the writer. Dr. Parry adds: "Dr. Cameron should not be called a famous criminal; I fully recognize my mistake. The proper title of my lecture should have been 'Some famous medical trials,' and this is the name under which I am shortly publishing a book, an extension of my lecture."

THE DEVELOPMENT OF VAGINAL OPERATIONS FOR GENITAL PROLAPSE.

SIR,—I submit the following brief reply to Dr. R. A. Paramore's letter in your issue of December 25th, 1926 (p. 1241).

1. The primary or main supports of the uterus are the cardinal ligaments. This view is borne out, first, by the late Arthur Nyulasy's successful operation of looping or shortening these ligaments, and thereby overcoming uterine prolapse; secondly, by the fact that the perineum may be lacerated right into the rectum without any uterine prolapse whatever occurring; thirdly, by the fact that, in an ordinary vaginal hysterectomy, the uterus cannot be fully brought down until the cardinal ligaments (in the base of the broad ligaments) have been divided; fourthly, by the emphatic opinion of the eminent anatomist Professor A. F. Dixon on "The supports of the uterus," as expressed in the BRITISH MEDICAL JOURNAL of March 29th, 1919 (p. 378).

2. The secondary support of the uterus is the pelvic diaphragm, which prevents undue stretching (that is, strain) of the cardinal ligaments as the result of intra-abdominal pressure; so that, in this regard, the function of the pelvic diaphragm is merely subsidiary to that of the cardinal ligaments.—I am, etc.,

Melbourne, Feb. 5th. FRANK A. NYULASY, M.D.

PRACTITIONERS OF PATHOLOGY.

SIR,—The British Pathologists Association was formed at a meeting held in London on January 7th last, for the purpose of developing the application of pathology in relation to medicine, and of protecting the interests of those engaged in its study and practice. Membership is open to all registered medical practitioners engaged in the study and practice of pathology.

It is, in the opinion of the council of the association, very necessary that there should be in existence a schedule of minimal fees payable for pathological investigations for persons insured under the National Health Insurance Acts. In the absence of such a schedule there is bound to be competition for this work, with consequent fee-cutting and inefficiency.

The council of the association has in hand the drafting of a schedule of fees for the various classes of laboratory investigations in general use in clinical medicine. The fees in this schedule have been worked out on the basis of the cost per pair of hands per hour employed in a pathological laboratory under the direction of one of the members of the association, the costs of which have been accurately controlled over a period of years. The fees indicated may be regarded as the minima which can be expected to give a reasonable financial return when the procedures are performed in a laboratory subsidized from no outside source.

Copies of this schedule will be sent on request to all members of the association, for comment or suggested amendment.

The British Pathologists Association is working in the very closest touch with the British Medical Association, from which it has received invaluable help. The schedule of fees for pathological investigations is to be submitted to the Insurance Acts Committee of the British Medical Association at an early date, at a meeting at which the whole question of provision of a pathological service for panel patients will come under discussion.

It is proposed to submit this schedule to the Ministry of Health and to urge its adoption for pathological work performed for insured persons under any arrangements made either by the Ministry or by individual National Health Insurance Committees.

In approaching the Ministry of Health the British Pathologists Association wishes to be able to speak as representing the body of practising pathologists in this country. Practising pathologists not already members of the association are therefore urged to become so. The annual subscription is £1 1s., which includes entrance fee. Medical practitioners desiring to join the association should communicate with one of the members of the council, which is constituted as follows:

Dr. C. Powell White (President), Victoria University, Manchester; Dr. J. G. Greenfield, National Hospital, Queen Square, London, W.C.1; Dr. S. C. Dyke, Wolverhampton and Staffordshire Hospital, Wolverhampton; Dr. A. Renshaw, 16, St. John Street, Manchester; Dr. E. Wordley, South Devon and East Cornwall Hospital, Plymouth; Dr. G. Hadfield, General Hospital, Bristol; Dr. A. G. Shera, Princess Alice Memorial Hospital, Eastbourne; Dr. A. F. S. Sladden, General Hospital, Swansea; Dr. W. Grace, Royal Infirmary, Chester; Dr. R. V. Solly, Royal Devon and Exeter Hospital, Exeter.

—I am, etc.,

Wolverhampton, March 10th.

S. C. DYKE,
Secretary, British Pathologists Association.

OPTICIANS AND OPHTHALMIC BENEFIT.

SIR,—I send the following account in the hope that it may be sufficiently interesting for publication. It also tends to prove that these societies (and I believe that there are many) who direct their members to go to the opticians for ophthalmic benefit are not always in the right.

In December, 1926, a woman factory worker, aged 34, was sent to me by her panel doctor, who recognized that the headaches from which she was constantly suffering were due to refractive errors. Four years ago she had been to a qualified optician (who, by the way, had charged her £2 7s. 6d. for a pair of rimless spectacles), and his prescription was for right and left eyes +0.5 axis cylinder horizontal.

She wore these spectacles for one year, but obtaining no relief she went to him again, and he then altered the lenses to −0.5 cylinder axis horizontal, right and left; for this change of lenses the charge made was £1 1s. Still obtaining no relief, the patient discontinued wearing the spectacles for a considerable time, and the headaches continued. She was then referred to me, and my notes show as follows:

No conjunctival injection. Pupils react to light, and media normal. Right vision 6/24 not improved. Left vision 6/18 not improved. Under homatropine her refraction was

R. $\frac{+3.5}{+2.}$ L. $\frac{+2.5}{+1.75}$.

At a post-mydriatic test she preferred

R. $\frac{+0.25 \text{ sp.}}{+1.5 \text{ cyl. hor.}} = \frac{6}{6}$ L. $\frac{+0.25 \text{ sp.}}{+0.75 \text{ cyl. hor.}} = \frac{6}{6}$

These were prescribed for constant wear, and since wearing them she has been quite free from headaches.—I am, etc.,

Leicester, Feb. 23rd. A. G. C. POCOCK.

THE SPAHLINGER TREATMENT.

THE following letter has been addressed to the President of the British Medical Association by the President and Secretary of the Central Committee of the Fédération des Médecins Suisses:

"MY DEAR COLLEAGUE,

"The Swiss medical faculty has for some time past been receiving a considerable number of inquiries from British doctors as to the extent to which the methods utilized by Mr. Spahlinger of Geneva for combating tuberculosis are known and utilized in Switzerland, and what is the opinion of the Swiss medical fraternity with regard to them.

"The Central Committee of the Swiss Medical Federation (Fédération des Médecins Suisses) has therefore decided to make and communicate to you the following declaration:

"(1) Mr. H. Spahlinger of Geneva, 'licencié en droit,' holds no medical degree, and so is not a member of our Federation.

"(2) The serums and vaccines that he claims to have discovered for the cure of tuberculosis have so far only been applied in exceptional cases by Swiss doctors and for Swiss patients; moreover, the Swiss medical press has never published any communication either from Mr. Spahlinger himself or anyone else giving the composition of these serums and vaccines, the means by which they can be prepared or procured, and the therapeutic results that they have given. Any control in our country of the value of these serums and vaccines, or of the results obtained by their application, has therefore been impossible.

"(3) Consequently, Mr. Spahlinger's methods have so far remained unknown to the large majority of Swiss practitioners.

"(4) The Geneva Medical Society (Société Médicale de Genève) was asked by the Central Committee to give its opinion on the Spahlinger treatment. It replied that it was not at present in a position to give any opinion on Mr. Spahlinger's methods, as no published statement existed giving a sufficiently clear account of these methods to allow of their serious examination. The Geneva Medical Society further noted that Mr. Spahlinger's first statement in explanation of his system had been made to the society on the 2nd March, 1927, in order to enable it to comply with our request. This statement could not, however, be considered as in any way conclusive, since the ground plan of his work and the basis of his statement are purely theoretical, and have not yet been subjected to scientific investigation.

"We should be glad if you would bring this declaration to the notice of the members of your Association.

"We have the honour to remain,

"Yours faithfully,

"Dr. H. MAILLART, *President*,

"Dr. GARRAUX, *Secretary*,

of the Central Committee of the Fédération des Médecins Suisses."

Geneva, March 8th.

Obituary.

FREDERICK ARMITAGE SOUTHAM, M.A.,

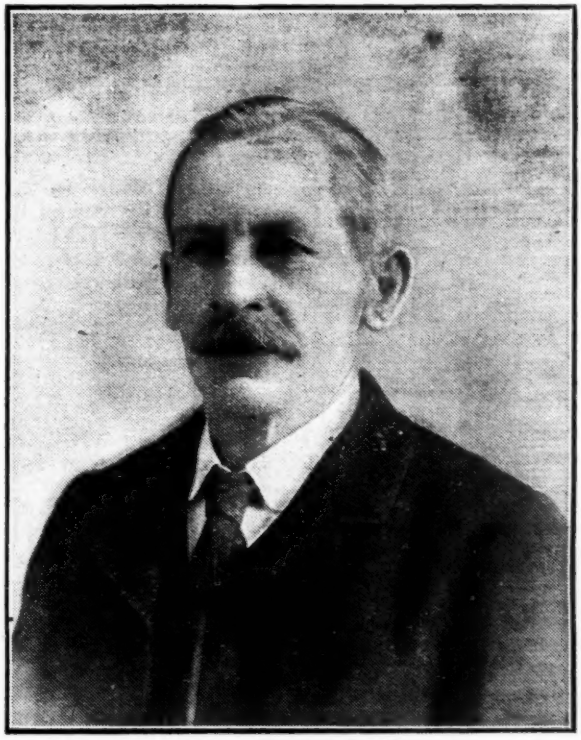
M.B.OXON., F.R.C.S.ENG.,

Consulting Surgeon, Manchester Royal Infirmary; Emeritus Professor of Surgery, Manchester University.

WE greatly regret to announce the death of Mr. F. A. Southam, which took place on March 9th. Mr. Southam was the son of Dr. George Southam, who was honorary surgeon to the Manchester Royal Infirmary from 1847 to 1876. George Southam was lecturer in surgery at the old Chatham Street School of Medicine, which later joined with the School of Medicine in Pine Street, and subsequently amalgamated with Owens College. He was a prominent man in the medical life of Manchester in the middle of last century, and was President of the Council of the British Medical Association in 1872 and 1873.

Mr. F. A. Southam, who was born in Manchester in 1850, was sent to Rugby and went up to Trinity College, Oxford, in 1869. He graduated B.A. in 1873, taking a first class in natural science. He graduated M.A., and also M.B.Oxon. in 1877, and was admitted a Fellow of the Royal College of Surgeons of England in the same year. His clinical study was carried out in Manchester, where he won many honours. In 1876 he became physician's assistant at the Manchester Royal Infirmary, was house-physician in 1877, and resident surgical officer in 1878 and 1879. He was also for a time resident at the Barnes Convalescent Hospital. He was elected honorary assistant surgeon to the Manchester Royal Infirmary in 1880, and remained on the active staff until 1910, when he retired on reaching his sixtieth year. In 1914, owing to the shortage of surgeons due to the great war, he again took charge of a surgical unit at the infirmary, and helped the hospital during a time of great difficulty. During the war he also held the rank of Lieutenant-Colonel R.A.M.C., and did much valuable work at the Second Western General Hospital. Mr. Southam was the author of *Regional Surgery: a Manual for Students*, a book which was widely read by students of his day. He wrote many articles on surgical topics in the course of his life, one of the best known being that on fractures, in Treves's *Manual of Surgery*. In 1887 he received a certificate of honourable mention for the Jacksonian Prize at the Royal College of Surgeons of England for his dissertation on the subject of "The pathology, diagnosis, and treatment of tumours of the bladder." It is perhaps for his work on the bladder and on vesical calculus that Mr. Southam was best known. In 1904 he published a paper in this JOURNAL on a series of 120 operations for vesical calculi. To the end of his life he showed great interest in this subject, and as recently as two years ago a letter from him was published in the BRITISH MEDICAL JOURNAL on the question of the treatment of bladder stone. He was also one of the pioneers in the early operative treatment of acute appendicitis, and published several important articles on the subject when this disease first became recognized. He was lecturer in operative surgery at the Victoria University, Manchester, for a number of years, and later held the appointment of professor of clinical surgery at the University. He was a past president of the Manchester Medical, Pathological, and Clinical Societies, and was an honorary member of the Manchester Surgical Society. He was for many years a member of the British Medical Association and took an active part in its meetings. He was secretary of the Section of Surgery at the Annual Meeting at Birmingham in 1890, vice-president of the Section of Diseases of Children when the British Medical Association held its annual gathering in London in 1895, and vice-president of the Section of Surgery at the Annual Meetings in Carlisle and Manchester in 1896 and 1902 respectively. He held a number of consultative positions in connexion with the medical institutions of Manchester; among these were consulting surgeon to the Manchester Royal Infirmary, the Northern Hospital for Women and Children, the Manchester Christie Hospital, and the Victoria Memorial Jewish Hospital. He was formerly examiner in surgery to the Universities of Oxford and Manchester.

Mr. Southam was a man of unusual character, combining quiet determination with rare kindliness and goodness of heart, and was pre-eminent as an instructor. His teaching was of the simplest and clearest character, without being confusing or deep, and at the same time perfectly definite. His old pupils speak in the highest terms of his judgement, which was unerring, and his operative skill, which was unequalled in his day. He was a cool and careful operator, and was never at a loss in any surgical emergency. Perhaps one of the secrets of his success in surgery was his rapidity in operating. His ward classes and clinical lectures on surgery were the best given in their time, and rarely surgeons, even at the present day, equal him in directness. Few men have been held in such affection by those who came under his hands, both as a teacher and an operator. He was a great athlete in his earlier days, winning his blue at Oxford for short-distance running, and even to the end he was a well known figure in the Manchester streets, always preferring walking to driving. It is recorded that people living in his neighbourhood set their clocks by the regularity of his daily peregrinations until the last week of his life. He was a keen golfer, even to the extent of having a practice net fitted up in his own home. In 1882 he married Amy Florence Hughes, daughter of the headmaster of Blundell's School, and had a very happy married life. He was left a widower four years ago, and is survived by his two sons, the Rev. Eric Southam, vicar of St. Mark's, Portsmouth, and Mr. A. H. Southam, M.Ch.Oxon., F.R.C.S.Eng., who is carrying on the surgical tradition of the family in Manchester.



F. A. SOUTHAM, F.R.C.S.

The funeral service, which was conducted by his old rector the Bishop of Middleton, took place at the Manchester Crematorium on March 11th, and was largely attended by members of the medical and surgical profession in and around Manchester. The ashes were deposited in the family vault at St. John's, Pendlebury, the following morning.

Dr. WILSHAW WILLIAM GROSVENOR, who died on January 8th at Bury Vicarage, Sussex, received his medical education at the University of Cambridge and St. Bartholomew's Hospital. He obtained the diplomas M.R.C.S.Eng. and L.R.C.P.Lond. in 1888, and graduated M.B.Dublin in 1894, proceeding M.D. in the following year. For many years Dr. Grosvenor carried on a successful practice at Gloucester, and was a strong supporter of the British Medical Association. He was honorary secretary of the

Gloucester Branch from 1899 to 1902, and one of the honorary local secretaries of the Annual Meeting at Cheltenham in 1901. He was elected president of the Gloucester Branch in 1911, and served on the Branch Council from 1912 to 1919.

Dr. FREDERIC WILLIAM POLLARD of Blackburn died on February 25th, aged 51 years. He was the son of the late Dr. W. R. Pollard, who for nearly half a century was medical officer to the Blackburn rural district council. His early education was conducted by a private tutor, and he studied medicine at the University of Edinburgh and Trinity College, Dublin. He took the diplomas of Lic.Med., L.Ch., and L.M. in 1901, and graduated M.B., B.Ch., B.A.O.Dub. in 1924. After serving as clinical clerk to the Meath Hospital, Dublin, he joined his father in practice and subsequently started on his own account. For several years he was a district medical officer, and had to resign the appointment owing to pressure of other work. Dr. Pollard was a member of the Blackburn Division of the British Medical Association, and during the war served at the Whalley Military Hospital; he is survived by his widow. The funeral, which took place on March 1st, was attended by many members of the medical profession in Blackburn and the surrounding district.

The death occurred rather suddenly, on February 14th, of Dr. JOHN BRANGAN, Kells, co. Meath, at the age of 56. He had an anginal attack a few days previously, but apparently recovered, and visited some patients on the day of his death; a second attack occurred in the evening, and he succumbed. A native of co. Meath, he was educated at St. Malachy's College, Belfast, and the Catholic University of Dublin, obtaining the diplomas of L.R.C.P. and S.Ed. and L.R.F.P.S.Glasg. in 1899. He was appointed medical officer to Kilskeer Dispensary in 1900, coroner for North Meath shortly afterwards, a justice of the peace for the county, and later a peace commissioner. Dr. Brangan had a very extensive practice, and was held in the highest esteem by all classes of the community. His splendid physique, with his cheery and friendly smile, inspired confidence in his patients, who recognized in him a sincere friend and a skilled physician. Apart from his profession, his special hobby was the breeding and racing of horses, and during the past quarter of a century he owned some very good thoroughbreds, who won races on both sides of the Channel; Icila, Tisheen, Hairpin II, Parapluie, and Gardenrath, to mention only a few of his animals, were well known in England. His funeral was one of the largest ever seen in county Meath, and was representative of every class and creed. Dr. Brangan leaves a widow and a family of seven. His eldest daughter and second son are members of the medical profession.

Dr. ISAAC WHITLA CORKEY of Epsom was one of those brilliant young Ulstermen whose services were lost to Ireland when the Irish Free State came into being. He was born at Warrenpoint, county Down, in 1892, and studied medicine at the University of Dublin, where he won a medical scholarship, graduating B.Ch. and B.A.O. in 1915, and later proceeding to the M.A., M.D., and M.Ch. degrees. He had a distinguished career in the war, when he served as medical officer with the Ulster Division and gained the Military Cross, and after demobilization from the R.A.M.C. at the end of the war he took the Fellowships of both the English and the Irish Colleges of Surgeons. In 1919 he was appointed assistant surgeon to Sir Patrick Dun's Hospital, Dublin, and had to all appearances a successful career before him in the Irish capital; but the Irish Free State and the methods of those who strove for its formation were both so distasteful to him that he threw up his appointment, settled at Epsom in partnership with another of his compatriots, and was appointed surgeon to St. Anthony's Hospital. Corkey (writes a former colleague) was in many ways a typical Irishman: impulsive, even hot-headed, generous, humorous, and, above all, eminently human. He had the defects of some of these qualities, in that it was often difficult to make him see both sides of any question, especially political or religious questions. But he never bore malice, was always as ready to laugh at himself as at anyone else, and was, in a word, a man whom anyone might be glad to call his friend. He was nephew to Sir William Whitla of Belfast. He leaves a widow and one very young child, to whom sympathy will be widely extended on the sudden loss of so brilliant and popular a member of the medical profession.

Dr. ANDREW THOMSON, who died in Edinburgh on February 19th at the age of 70, came from a well known Border family, who for several generations had held the farm of Hobton, Ancrum. Dr. Thomson graduated M.B., C.M. at Edinburgh in 1883, and thereafter practised for a time at Wakefield. He had retired from active practice about three years ago, and went to reside in Jedburgh. He was keenly interested in local sports, and in particular was an enthusiastic supporter of the Jedforest Football Club.

Dr. WILLIAM YOUNGSON DAVIDSON, who died on February 27th, after a very short illness, had practised in Smethwick for fifteen years. He received his medical education at Aberdeen, and graduated M.B., Ch.B. in 1908. He took great interest in municipal affairs, and particularly in the housing question, and he was an active member of the Conservative Association. In 1924 he was elected to the Smethwick Town Council as a representative of the Soho ward, and served on the health committee. He was a member of the British Medical Association, and served on the Executive Committee of the Birmingham Central Division in 1925. His funeral on March 2nd was attended by the Mayor of Smethwick and by representatives of the various organizations with which he had been connected.

Dr. ANDREW ROBERTSON of Halifax died on March 4th, aged 64 years. He was educated at the University of Edinburgh, where he graduated M.A. in 1882, and M.B., C.M. in 1888. After serving as assistant house-surgeon to the Halifax Infirmary he started practice in 1888. During the war he was a member of the St. Luke's War Hospital medical staff with the rank of Major R.A.M.C., and his name was amongst those brought to the notice of the Secretary of State for War for valuable services rendered. Dr. Robertson took a keen interest in cricket and football, in both of which games he excelled in his earlier years. He was a member of the Halifax Division of the British Medical Association; his widow and one son survive him.

Dr. JOHN MOORE SWAIN, of Long Clawson, Leicestershire, who was born in January, 1827, died on March 7th. He obtained the diploma L.S.A. in 1849, and the M.R.C.S. in the following year, being one of the first to register under the Medical Act of 1858. For between sixty and seventy years he practised in the Vale of Belvoir, and only retired about five years ago. He was well known for his generous gifts to local institutions. For nearly forty years Dr. Swain was a member of the British Medical Association, and a telegram was sent to him a few weeks ago by the President of the Association congratulating him on the attainment of his hundredth birthday.

The following well known foreign medical men have recently died: Dr. GABRIEL FERRÉ, professor of experimental medicine in the Bordeaux faculty of medicine; Dr. JUAN BARCIA CABELLERO, professor of anatomy and rector of the University of Santiago; Dr. MAX FINGERHUTH, joint editor of the *Schweizerische medizinische Wochenschrift*; Dr. WILLIAM OETTINGER, a Paris physician who was the author of works on diseases of the arteries and digestive system; Dr. CASPER HENDRIK KUHN, formerly professor of morbid anatomy and medical jurisprudence at Amsterdam; Professor KARL ERNST RANKE of Munich, a leading authority on tuberculosis, aged 56; Professor HEINRICH BENEDICT, director of the Jewish Hospital in Budapest, aged 54; and Dr. WILHELM FLEINER, formerly director of the medical policlinic at Heidelberg.

Medico-Legal.

HUME-SPRY *v.* SMITH AND WATSON.

BEFORE Mr. Justice McCardie and a special jury in the King's Bench Division the hearing was continued on Wednesday, March 9th, of the action brought by Mr. F. Hume-Spry against Dr. R. Percy Smith of Queen Anne Street, W., and Dr. A. H. Watson of Salisbury, for damages for alleged negligence in certifying him as a lunatic.

The defendants pleaded the protection of Section 330 of the Lunacy Act, 1890, because they acted in good faith and with reasonable care; and, further, they relied on the Public Authorities Protection Act, 1893. A summarized report of the earlier proceedings appeared at page 495 of our last issue.

Plaintiff's Case Continued.

Dr. J. S. Risien Russell, of Wimpole Street, gave evidence for the plaintiff. He saw Mr. Hume-Spry on December 17th, 1925, and, after reading the certificates of the defendant doctors, he questioned the plaintiff as to the examinations he had been subjected to before certification. He saw the plaintiff again in January, 1926, and after a further complete examination, both physical and mental, he could not find any evidence of insanity—or, from the evidence before him, that he had ever been insane. The "delusion" mentioned in the certificates was a perfectly possible state of things—Mrs. Hume-Spry's misconduct—and was not the same thing as a man thinking that he was the Deity, or the King of England, or the Emperor of Germany. The history which he heard was compatible with psychasthenia, in which the patient might behave in the manner popularly known as that of a "raving lunatic," or he might be morose and seek solitude as the plaintiff was said to have done. The condition was particularly common since the war. In the witness's opinion the certificates of insanity ought not to have been given.

Mr. Neilson, K.C. (cross-examining): Assuming that Dr. Smith saw the case-book at Latchmere Hospital, was told the facts by Dr. Oliver, and had an interview with the plaintiff lasting an hour and three-quarters, are you prepared to say that he could not properly and honestly make up his mind that the patient should be put under control?—No; but if he had found at the examination anything which justified that, it must have appeared in the certificate, and there is not one word in this certificate which would justify a man's being certified.

Dr. Russell agreed that copies of the certificates went before the Board of Control, who had full control of institutions such as the Old Manor House, and that if they were not satisfied they could take action and send the patient out of the asylum.

Dr. T. B. Hyslop, of Portland Place, W., said he examined the plaintiff on March 3rd last, and found him of sound mind and understanding. During forty years he had never put down in a certificate any fact communicated by others. It was necessary to make a physical examination of a patient to exclude the possibility of the mental symptoms arising from some bodily illness. In his opinion, Dr. Percy Smith should have considered the physical as well as the mental aspect.

Cross-examined, Dr. Hyslop said Dr. Smith might have thought that he was justified in giving the certificate, but he (witness) would not have accepted hearsay evidence in dealing with a person's liberty without putting the matter to the patient himself. There was no obligation to certify; on the other hand, there was an obligation to the public and to the patient. In a social matter, such as an allegation of immorality against a wife, it was not the medical practice to go further than questioning, and, if necessary, cross-questioning, the patient about the suggestions of immorality.—"I think that many medical men have extreme courage in these matters. A doctor is always on the horns of a dilemma and is inadequately protected by the law."

Sir James Purves-Stewart spoke to examining the plaintiff on December 18th, 1925. It was not until he saw the letters written to Mrs. Hume-Spry by Dr. Stodart-Walker that he expressed an opinion. Then he declared that the "delusions" were not delusions, but beliefs founded on reasonable evidence. On physical examination he could find no evidence of mental disease at all, and he therefore came to the conclusion that the plaintiff was sane.

Cross-examined, the witness agreed that Dr. Smith, on March 13th, 1923, might properly have taken a view different from that which he had expressed, especially if he had been inadequately informed.

Mrs. Weller and Mrs. Thwaites, sisters of the plaintiff, also gave evidence.

Case for the Defendants.

Mr. Neilson, in opening for the defence, said Section 330 of the Lunacy Act, 1890, gave protection to medical men in addition to that afforded by the common law. That section provided that, if any medical man did anything in pursuance of that Act, he was not to be liable in any civil or criminal proceedings so long as he had acted in good faith and with reasonable care. If Dr. Smith and Dr. Watson gave their certificates honestly, and in the proper exercise of the skill which they possessed, they would not be liable, even though other medical men might think that the plaintiff was suffering from psychasthenia and not from unsoundness of mind. Doctors were entitled to differ, and when doctors had to examine a patient to ascertain the condition of his mind they had a very grave responsibility and had to make up their minds in circumstances of very great difficulty and complexity. They had to pay regard, not only to the interests of the patient, but also to those of the public. There was the added complication in the present case of the allegations between Mr. and Mrs. Hume-Spry. The defendants were not concerned with the truth or falsity of these allegations. The only things that mattered were their state of knowledge when they gave their certificates, the care that they took in examining the patient and in forming their opinion, and what the plaintiff's condition was on the material dates of certification.

Dr. Percy Smith, in evidence, said he had practised as a consulting physician on mental cases and nervous diseases since 1898. He had known Dr. Woods professionally since 1912, but not socially. He was asked over the telephone by Dr. Oliver, the medical superintendent under the Ministry of Pensions at Latchmere Hospital, to go and see the plaintiff. The symptoms displayed in the documents, and the story which he heard from Dr. Oliver, were facts which put him on inquiry. He regarded it as serious that the patient should threaten to kill Dr. Woods by shooting him with a revolver. The plaintiff looked very angry and suspicious. The interview lasted three-quarters of an hour. Then he saw Mrs. Hume-Spry, and he felt she was telling the truth. Turning on the gas in his wife's bedroom and putting a knife to his own throat were acts on the part of the plaintiff which he regarded as serious. Having seen the husband and wife and the documents, he then expressed his honest opinion that the plaintiff was insane and not a fit person to be at large. The fact that he knew Dr. Woods in the professional sense did not in any way influence him in the decision he came to, except that he felt that for a man in the position of Dr. Woods it was such a grave charge that he could not believe it.

Answering Mr. Justice McCardie, the witness said he regarded the plaintiff at the time he certified him as unfit to manage his affairs or to look after himself, and as being a danger to others. Continuing, Dr. Percy Smith said that the same evening he heard that the plaintiff had left the hospital and had not returned, and, as he considered it very dangerous for the plaintiff to be at large, he signed the certificate the next morning.

Cross-examined, Dr. Smith said he would not offer any opinion as to the plaintiff's sanity now. He had heard the plaintiff's evidence in that court as to the grounds for his belief that his wife had been unfaithful to him. They were much to the same effect as the statements the plaintiff made to him in March, 1923. He admitted he never examined the plaintiff physically. In reply to the Judge, who asked, "What is the final question before signing a certificate?" the witness replied that an important question was whether the patient was safe to be at large, or whether he was a danger either to himself or to others. A third question was whether the patient was marked by such unsoundness of mind as to require treatment in a mental hospital.

Sir H. Maddocks: Looking at the certificate, can you see anything in the facts observed by yourself which would justify you in certifying the plaintiff?—Yes, because he had, in my opinion, a delusion that his wife had committed misconduct with Dr. Woods and could prove it. I formed the opinion that that was a delusion after I had seen his wife, and because he said that the idea came to him with redoubled force from his environment and not from anything new.

The witness agreed that he did not ask the plaintiff whether he had threatened to kill Dr. Woods. One of the things to consider was the *bona fides* of the people who reported such threats. He agreed that a medical man who took out to dinner the attractive wife of one of his patients was very injudicious, but even if he had known in March, 1923, that Dr. Woods had taken Mrs. Hume-Spry out to dinner and had visited her at her flat, he would still have certified the husband, because there were other things which might have been put down in the certificate. He did not make any attempt to find out the truth of Mr. Hume-Spry's charges against Dr. Woods: he was not a magistrate. In reply to a question whether, if he had known as a fact that she had misconducted herself with Dr. Woods he would have signed the certificate, the witness said he did not suppose that he would. He added that if he had known of the letters from Dr. Stodart-Walker to Mrs. Hume-Spry—which in his view were flippant nonsense—he might possibly have had to take other steps before certifying Mr. Hume-Spry as suffering from delusions about his wife's infidelity.

Dr. Arthur Hubert Watson, in evidence, said he was a general practitioner at Salisbury. On March 17th, 1923, he saw the plaintiff at the Old Manor House, Salisbury, after he had had a conversation with Mrs. Hume-Spry and Dr. Martin. The interview lasted about half an hour, and the witness came to the conclusion that the plaintiff was obviously insane.

Mr. Justice McCardie: You saw him in the witness-box. Did his appearance and the way in which he answered questions resemble what you observed in March, 1923?—I will not say that it did not bear the slightest resemblance, but it was quite different.

He (witness) was scared and nervous of him, and felt relief in knowing that there were attendants outside. When he (the witness) gave his certificate he did not know that it was Dr. Percy Smith who had already certified the patient as being insane.

In cross-examination Dr. Watson said he knew an urgency order had been made against Mr. Hume-Spry before he saw him at the Old Manor House on March 17th, 1923. He never saw the case-book or anything in writing relating to the case; he heard the history from Dr. Martin (the proprietor), Mrs. Hume-Spry, and the patient. He agreed that he had put into the certificate he signed the statement that the plaintiff had tried to murder his wife "by turning on the gas and shutting the window last Monday." He knew now that that incident was alleged to have occurred nearly three months earlier. Witness added that when he put to the plaintiff his wife's denials about Dr. Woods, the plaintiff's account was confused. The plaintiff repeated the charges, but he formed the conclusion that the plaintiff was insane. He agreed with counsel that wildness and excitement might be due to the fact that a man was labouring under strong emotion, and the sanest man in a temper

might look like a madman. The plaintiff (whom he saw alone) did not offer him any violence, or utter any threats against anyone whilst he was with him.

Dr. W. J. O'Donovan of Harley Street, in his evidence, said the plaintiff and his wife occupied a flat in the same building as the witness and his wife in 1920. In March, or April, 1920, the witness was called in to see the plaintiff, who spoke of suicide; Mrs. Hume-Spry, in her husband's presence, said he had threatened to commit suicide, and had also threatened her. As a result of a letter the witness wrote to Dr. Woods that plaintiff "required expert psychological treatment or I am sure he will come to an untimely end," the plaintiff went into Palace Green Hospital. In January, 1922, the plaintiff told the witness that there was a liaison between Dr. Woods and Mrs. Hume-Spry, and that he thought that he should have compensation from Dr. Woods. Witness turned him out forthwith, telling him he was a blackguard, and that he was attempting blackmail. Plaintiff's ultimate certification seemed to the witness to be a "very natural development" from the symptoms he had observed in 1920. In cross-examination Dr. O'Donovan agreed that in 1920 his wife and Mrs. Hume-Spry became friendly, and that he (the witness) had known Dr. Woods since he was a medical student.

Mr. Herbert Francis, solicitor, of Bedford Row, in his evidence, said that in the autumn of 1921 he read a diary shown him by the plaintiff, and advised the plaintiff that, in his opinion, he had no case against his wife for divorce. Cross-examined, he agreed that in 1918 the plaintiff consulted him in regard to divorce proceedings, producing what purported to be original letters from a man to Mrs. Hume-Spry. Subject to the advice of counsel, the witness advised a petition for divorce, as the letters disclosed a prima facie case against the wife provided evidence was forthcoming. He heard later that the parties had become reconciled. He could not remember whether, when he had the diary, the last two pages were torn out, and he could only say that he did not remember that any other document accompanied the diary. When in 1926 the plaintiff's present solicitors approached him with regard to a confession, he said he had seen certain documents which were alleged to be the confession, but that he had no clear recollection of their contents. Re-examined, Mr. Francis said that, as a result of the divorce proceedings in 1918, the co-respondent paid £300, including costs, and that the petition was withdrawn.

Mr. Collings, clerk to the previous witness, spoke to the plaintiff bringing to him the diary in 1921, but he did not think that there was any other document. If a confession by Mrs. Hume-Spry of misconduct had accompanied the diary he thought he would have remembered it.

Mrs. Amelia Hume-Spry, in her evidence, denied committing adultery with the co-respondent cited in the divorce proceedings instituted in 1918. The man in question completely lost his head about her, and wrote her five letters because she avoided him. When her husband suggested a petition, the witness told him "it was nothing but an attempt to commit blackmail" and that she would not be a party to it. Her husband then suggested that a confession from her would clinch the matter, and she told him exactly what she thought of him. About that time her husband pretended to shoot himself with his revolver. "I understood that he would shoot me and then do away with himself, so I signed a confession. That was in 1918, and I have never signed one since." Eventually, the co-respondent paid £300 and the petition was withdrawn. Her husband then told her: "If you had gone through with the thing properly there would have been £3,000 instead of £300." What he meant by that was if she had really misconducted herself with the co-respondent. Her husband was never normal and was unmanageable. When he was at Palace Green Hospital she went to see him every day. Though he thought he was perfectly sane, she thought he was 75 per cent. insane.

*** There was an inaccuracy in the report of this case published in our last issue. On page 495, first column, appeared the words: "Mr. Hume-Spry remained at the Old Manor House until December, 1923, when he was certified by other doctors (Sir James Purves-Stewart, Dr. Risien Russell, and Dr. Hughes) as being perfectly sane." We understand that when at a later stage Sir Henry Maddocks, counsel for the plaintiff, repeated this date, Mr. Neilson, counsel for the defendants, immediately corrected the statement and pointed out that Sir J. Purves-Stewart and Dr. Russell did not see the patient until December, 1925, that is, until two and three-quarter years after the patient had been certified. This is clearly brought out in the report of their evidence printed above. Dr. Orr was the medical man who gave the certificate of sanity in January, 1924, when the patient was on leave of absence.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Rolleston Memorial Prize, 1928.

THIS prize, now of the value of about £100, is awarded every two years for original research in animal and vegetable morphology, physiology and pathology, or anthropology. The next award will be made in Trinity Term, 1928.

No candidate will be eligible (1) who has not either passed the examinations for the B.A. or the B.M. degree at Oxford, or for the B.A. or M.B. at Cambridge, or been admitted as an advanced student or as a student for the degree of B.Litt. or B.Sc. at Oxford, or as a research student for the degree of M.Litt. or M.Sc. or Ph.D. at Cambridge; (2) who has exceeded a period of six years from attaining one or other of these qualifications, or from attaining the first of such qualifications, if he has attained more than one; (3) who has exceeded ten years from his matriculation.

Candidates must forward their memoirs to the Registrar of the University of Oxford before March 31st, 1928. The memoirs may be printed, typewritten, or in manuscript. They should be inscribed "Rolleston Memorial Essay," and bear the name and address of the author. Memoirs already published are admitted to the competition. No account will be taken of any research which has not been prosecuted by the candidate subsequent to his matriculation.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 11th the degree of M.B., B.Chir. was conferred on G. Simon.

UNIVERSITY OF LONDON.

MR. ERNEST PLAYFAIR and Mr. Hugh Augustine Richards have been recognized as teachers of anaesthetics at King's College Hospital Medical School.

A readership in bacteriology and immunology, tenable at the London School of Hygiene and Tropical Medicine, is to be instituted.

The regulations for the academic Diploma in Psychology have been amended by the substitution of the words "the second Monday prior to the first Monday in July" for the words "the first Monday in July" on page 529 of the Red Book, 1926-27.

The regulations for the second examination for medical degrees, Part II, for internal students are to be amended by the deletion of the words "or general" in lines 1 and 2 of Section (v) on page 237 of the Red Book, 1926-27, and by the addition to the end of the same section of the following:

> Students who have passed the B.Sc. (General) Examination will be similarly exempted provided they have obtained at least second-class marks in the subject of physiology.

The regulations for external students are to be similarly amended (Blue Book, September, 1926, page 210, paragraph 4 (iii)).

Professor T. H. Bryce has been appointed as staff examiner in anatomy for science and medical examinations, in succession to Professor E. Fawcett, resigned.

The Chancellor has appointed Professor Rushton Parker to be his representative on the Court of the University of Liverpool.

The ceremony of Presentation Day will be held in the Royal Albert Hall on Wednesday, May 11th, at 3 p.m. The graduation dinner will take place the same evening at 7 p.m. in Fishmongers' Hall, London Bridge.

Applications for grants from the Dixon Fund, which are allocated annually for the purpose of assisting scientific investigations, must be sent in between April 1st and May 16th, and for the Thomas Smythe Hughes Medical Research Fund for assisting original medical research between May 2nd and June 15th. Further particulars can be obtained from the Academic Registrar.

VICTORIA UNIVERSITY OF MANCHESTER.

PROFESSOR H. S. RAPER, C.B.E., M.B., Ch.B., D.Sc., has been appointed Dean of the Medical School as from July next.

The following appointments have been made:

Assistant Lecturer in Physiological Chemistry: Mr. P. W. Clutterbuck, O.B.E., M.Sc., Ph.D.Leeds. Assistant Lecturer in Comparative Physiology: Mr. E. N. Willmer, B.A.Oxf., M.Sc.Manch. Assistant Lecturer in Anatomy: Miss Eugenia R. A. Cooper, M.Sc., M.D.Manch.

The following award has been made: The Hill Prize in biochemistry has been awarded to Eric Boyland.

UNIVERSITY OF DUBLIN.

AT a meeting of the Senate held on March 12th Graces were passed for conferring at the summer commencements on June 28th the honorary degree of M.D. on Sir Humphry Rolleston, Bt., K.C.B., Regius Professor of Physic at Cambridge, and of M.Ch. on Dr. Harvey Cushing, C.B., Emeritus Professor of Surgery in Harvard University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on March 10th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Licences and Diplomas.

Licences in Dental Surgery were granted to 56 candidates. Diplomas in Tropical Medicine and Hygiene were granted jointly with the Royal College of Physicians to 24 candidates.

Appointments.

Mr. C. H. Fagge was appointed the representative of the College on the managing committee of the Schiff Home of Recovery. Mr. V. Warren Low was re-elected a representative of the College on the Senate of the University of London. Mr. Victor Bonney was elected a representative of the College on the Central Midwives Board for the period of one year from March 31st next. Sir H. J. Waring was re-elected a representative of the College in the General Council of Medical Education and Registration of the United Kingdom. Dr. George Parker, of Clifton, Bristol, was nominated as Thomas Vicary lecturer for the ensuing year.

Honorary Fellowships.

The following were elected honorary Fellows in connexion with the Lister centenary celebrations to be held in April next, the

elections being subject to the condition of personal attendance at the College to receive the Diploma :

Alessandri, Roberto, Professor of Surgery, Faculty of Medicine and Surgery, Rome.
Archibald, Edward William, Professor of Clinical Surgery and Surgery, McGill University, Montreal.
Krogius, Frans Ali Bruno, Professor of Clinical Surgery, Faculty of Medicine, University of Helsingfors.
Lecène, P., Professor of Surgical Pathology, Faculty of Medicine, University of Paris.
Leriche, René, Professor of Clinical Surgery, Faculty of Medicine, University of Strasbourg.
Matas, Rudolph, Professor of Surgery, Tulane University of Louisiana, New Orleans.
Willems, Charles, Professor of Operative Medicine, Faculty of Medicine, University of Liège.

Representation of Members on Council.

A report was received from a committee which had had under consideration the resolution carried at the annual meeting of Fellows and Members in November regarding the question of admitting Members to direct representation upon the Council of the College. A recommendation from the committee was adopted, and the exact form of question to be put to the Fellows will be settled at a future meeting of the Council.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

HERBERT FREDERICK BLACKLEE, M.B., Ch.B., Barrow-in-Furness, has been admitted after examination as a Fellow of Faculty.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE Parliamentary Medical Committee met at the House of Commons on March 9th, and re-elected Dr. Fremantle its chairman for the present session, and Dr. Graham Little its honorary secretary. The committee received and conferred with a deputation from the British Medical Association about the Dogs' Protection Bill and the steps which might be desirable in order to set forth the medical case for the use of dogs in experimental research. The committee approved the suggestion of the British Medical Association to call a conference of representatives of medical bodies in order to make plain to the public the opinion of those concerned in medical teaching and the progress of scientific medicine on the attacks made on medical research, and to explain why this work is in the interests of the public.

The Mental Deficiency Bill.

Definition of Mental Deficiency.

The text of the Mental Deficiency Bill, which was set down for second reading on March 18th, differed from that introduced last session chiefly in the addition to the definition of mental deficiency of a subsection requiring that the condition must have existed in the patient before the age of 18 years. This subsection ran :

"For the purposes of this section 'mental defectiveness' means a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury."

Memorandum.

The memorandum prefixed to the bill is as follows :

1. The main object of this Bill is to amend the definitions of defectives which are contained in the Mental Deficiency Act, 1913. Under these definitions only persons who are mentally defective from birth or from an early age come within the Act, and there is thus no power to deal with cases where the defectiveness arises at a later stage. An illustration is afforded by the disease known as encephalitis lethargica, though these particularly need the sort of care and treatment which can be provided in a mental deficiency colony. The effect of the Bill (Clause 1) is to eliminate the words "from birth or from an early age" and to bring within the scope of the Act all cases of mental deficiency which arise before the age of eighteen, whether due to inherent causes or induced by disease or injury.

2. Under the existing Act a defective may be placed under care if he is found to be also "neglected, abandoned or without visible means of support or cruelly treated." Clause 2 (1) extends this provision to a case where the care or training which the defective requires cannot be provided in his own home.

3. Subsections (2) and (3) of Clause 2 are designed to provide that any case may be dealt with by any one of the three methods recognized by the Act, viz., providing supervision, placing under guardianship or sending to an institution, while Clause 3 merely introduces a drafting amendment into the Act of 1913 to make it clear that section four of that Act only applies to the two latter of these methods.

4. Clause 4 will enable an order to be made on a petition without the consent of the parent or guardian, if, owing to his being abroad, the attempt to obtain it would unduly delay the proceedings on the petition.

5. Clause 5 provides that if a patient is away from an institution on leave of absence, he need not be brought back to the institution for examination in connexion with the continuation report required under section eleven of the Act.

6. Clause 6 makes explicit the power and duty of local authorities to provide suitable training for mental defectives whilst under supervision as well as in institutions.

7. Although the Act authorises the combination of local authorities, it does not enable a local authority to provide additional beds which could be lent to other authorities. Clause 7 (1) provides for such a procedure.

8. Clause 7 (2) enables the local mental deficiency authority and the local education authority (who have responsibility for certain classes of defectives of school age) to provide an institution jointly.

Notices of intention to move the rejection of the bill were given from the Labour benches.

The Navy Estimates.

On March 14th Mr. Bridgeman, in his statement on the Navy Estimates, said that recruitment for the Royal Naval Medical Service had been unsatisfactory for some considerable time. A committee had been set up to look into the conditions of the Service, and as a result certain improvements had been effected, which were notified last July in Fleet Orders. Greater facilities had been given to young medical officers to specialize in various branches of their profession which were not naturally easily available in sea service. Improved allowances had been given to holders of specialized posts, and charge pay to medical officers in charge of hospital and sick quarters had been approved. Any candidate who held a house appointment at a recognized hospital was allowed to ante-date his seniority by one year, the object of that being to attract the most efficient of the younger medical students. The establishment of dental officers had been increased from 48 to 64.

Sir B. Falle said that if a man fell ill in the navy he was sent to the fleet surgeon, who, on his own responsibility alone, decided whether the man was to be discharged from the service or not. That was absolutely wrong. The medical service in the navy was a great service, and the men in it were as able as could be found anywhere, but it should not rest with one man to decide a matter of this kind. If a man was going to be thrown out he should have the right to go before a board. He suggested that if this board consisted of a fleet surgeon, a civil practitioner, and a man like the town clerk of Portsmouth, the navy would be satisfied to abide by its decisions. The number of men thrown out of the service this year for tuberculosis alone was 196; only six of them, or about 3 per cent., were given any pension for the illness they had contracted in the service. Men suffering from tuberculosis dare not go sick, because if they did they knew that the fleet surgeon would throw them out on the beach. Appeal to the Admiralty should be made automatic and a matter of right.

Lieut.-Colonel Headlam doubted whether other medical opinion could be got so easily as Sir B. Falle imagined. If Sir B. Falle would let him know of a definite case where men had been hindered from appealing to the Admiralty, the matter should be looked into.

Later in the debate Mr. Bridgeman said he was not entirely satisfied with the arrangements for invalidity pensions regarding the attribution of disease. He would look into the matter and see if anything more could be done.

Flying Accidents.

During the discussion of the Air Estimates, on March 10th, Mr. Baldwin spoke on the causes of accidents in the Air Force. He said the proportion of accidents due to remediable causes was very small. Few could be traced to the failure of the human element on the ground, and very few to faulty design. It was not the fact that older designs of aeroplane were more prone to disaster. The type of man who made the flying pilot was the adventurous, quick-brained, with great reserve of nervous power. He asked the House to remember the elation of a young man of that temperament who had just learnt the mastery of the aeroplane. The great majority of accidents happened from a slight error of judgement on the part of pilots, and most of them within the first year or two of flying. Captain Garro-Jones said he had been in more than one aeroplane accident. He asked what were the regulations on the consumption of alcoholic drink in the flying squadrons. In the fine, swift judgements required of an aeroplane pilot one alcoholic drink would make the difference between disaster and safety. No pilot should be allowed to consume alcoholic liquor before he flew on any day. Science demanded that decision. Sir Philip Sassoon said the Air Ministry was anxious and careful to have as little drinking as possible in the Air Force. There was drinking. Drunkenness was an offence against the Air Force Regulations, and was carefully watched.

On March 14th Sir S. Hoare (Secretary for Air) told Mr. Hore-Belisha that 263 airmen were invalided from the Service in 1926. Of these, 230 were refused pensions on the ground of no attributability. Of thirty-five appeals against the original decision six were allowed, but in three of these cases the degree of disablement was under 20 per cent.

Boys in Mines: Miner's Nystagmus.

Colonel Lane-Fox told Dr. Davies, on March 15th, that boys of 14 years of age were permitted to work in coal mines without a previous medical examination for fitness; and that under the Factories and Workshops Acts no child of 14 years of age was permitted to work without a previous medical examination by the

certifying factory surgeon. The existing system of examination under the Factories and Workshops Acts, however, had been recently condemned by a committee of inquiry, and an improved system of examination was to be submitted to the House in the Factories Bill. If it was approved, the application of similar provisions to mines and quarries would certainly be considered.

On the same day Colonel Lane-Fox told Mr. Short that in 1925 the number of new cases of miner's nystagmus in which compensation was paid was 3,444, and the number continued from previous years was 7,890. The figures for 1926 were not yet available. The Mining Association and the Miners' Federation had been invited to co-operate with the Home Office to give effect to the recommendation of the Nystagmus Committee, and continual efforts were being made to improve lighting in mines. Colonel Lane-Fox further stated that the average time spent below ground each working day by the miners in coalfields where the full eight hours had been enforced by the employers was approximately eight and a half hours, with a shorter period on Saturdays in many districts.

Twenty persons under 18 years of age were killed in coal mines in Great Britain during the months of December, 1926, and January and February, 1927.

Small-pox.—Answering a member who has recently made many requests for statistical details concerning small-pox, Mr. Neville Chamberlain said: "I would point out that these particulars can be obtained from the weekly return of infectious diseases published by the Registrar-General."

Royal Commission on Lunacy.—The Minister of Health states that it is not practicable to prepare in time for introduction in the present session a bill incorporating the recommendations which the Government is able to adopt from the Report of the Royal Commission on Lunacy and Mental Disorder.

Research in Tuberculosis.—During 1926 the Medical Research Council spent £4,846 in research upon specific problems of tuberculosis. This excludes the cost of research into fundamental problems of which the bearing upon tuberculosis could not be calculated, and also the cost of work in this subject by members of the Council's own staff in the National Institute for Medical Research.

Anthrax in Menageries.—Mr. Guinness, replying to Sir W. Davison, on March 15th, said that in view of the recent outbreak of anthrax at the Zoological Gardens in London, he was at present considering the advisability of including within the scope of the Anthrax Order of 1910 all animals susceptible to anthrax which were kept in public or private zoological collections and travelling manageries.

Pensions.—In a reply to Sir W. de Frece, Major Tryon said he was satisfied that the hospital accommodation available was fully adequate to the requirements of the Ministry of Pensions. The average waiting period for admission to hospital did not exceed three to four days. The geographical distribution of the hospitals was as good as could be obtained. Answering Mr. Paling, Major Tryon said he did not know of any general discontent at the time which passed between a medical board and the communication of the result to the applicants. In a few cases expert opinion or additional evidence might have to be obtained, but such cases were diminishing in number. In an answer to Major Hills, Major Tryon said the wooden limb had now been so improved that it was lighter than the metal limb. In many cases it was regarded both by the pensioner and the surgeon as more suitable, especially in amputations below the knee.

Blind and Partially Blind Children.—Lord Eustace Percy states that the provision in certified special schools for totally blind children between the ages of 5 and 16 is, generally speaking, complete. Thirteen authorities had special schools for partially blind children, and fifteen or twenty authorities either admitted partially blind children to their own schools for the blind or sent them to such institutions elsewhere. In 1925 there were 2,000 blind children of school age and 4,692 partially blind children in England and Wales. On March 14th Lord Eustace Percy told Mr. R. Morrison that on March 31st, 1926, there were in certified special schools for the blind 613 children aged between 13 and 14, 361 between 14 and 15, 288 between 15 and 16, and 54 aged 16 and over. There were 496 deaf children aged between 13 and 14, 480 between 14 and 15, 416 between 15 and 16, and 71 aged 16 and over.

Mentally and Physically Defective Children.—Lord Eustace Percy stated on March 14th that in certified special schools for the mentally defective there were on March 31st, 1926, 2,629 children aged between 13 and 14, 2,103 between 14 and 15, 1,465 between 15 and 16, and 241 aged 16 and over. Physically defectives in special schools numbered 2,486 between 13 and 14 years of age, 1,360 between 14 and 15, 770 between 15 and 16, and 100 aged 16 and over. Epileptics numbered 96 between 13 and 14, 96 between 14 and 15, 76 between 15 and 16, and 13 aged 16 and over.

Invaliding from the Army.—Captain King told Mr. Hore-Belisha, on March 15th, that the exact number of men invalided from the army during 1926 was not available, but the total number of disability cases (including those of men already discharged) dealt with by the Chelsea Commissioners during that year was 2,546. In 2,100 cases the disability was found to be not attributable to military service, but 639 of the men concerned were eligible for non-attributable awards of gratuity or temporary pension. It was not possible to distinguish between appeals made by the men themselves and cases referred to the War Office by the Chelsea Commissioners. The approximate number of cases referred under both heads was 137, and the decision was modified in 59. There were, in all probability, other cases which did not necessarily come before the Chelsea Commissioners. Dr. Davies asked if the right hon. gentleman thought it possible that the present methods of assessment could be improved. Captain King replied that the present method of assessment was proving satisfactory. The question of an appeal tribunal had been considered on many occasions, and it was not considered necessary to set one up.

Foot-and-Mouth Disease.—On March 15th, in the House of Commons, Mr. Guinness moved the second reading of the Diseases of Animals Bill, which had already passed the Lords. The measure seeks to improve and modernize methods of defence against contagious diseases in animals. He explained that the decrease in foot-and-mouth disease was due to the embargo put on after the outbreak in a bacon factory at Carluke. The report of the Foot-and-Mouth Disease Committee confirmed the Government's action, because it gave an account of experiments which reproduced the conditions which occurred at Carluke. Healthy pig carcasses were splashed or smeared with the infected blood of other pigs. They were kept at a temperature of 15° C., and four days afterwards rinsings were taken, reproducing the condition of the effluent at Carluke. They were found to be capable of infecting healthy animals with foot-and-mouth disease.

Gas Warfare.—Sir L. Worthington-Evans states that the Government has information that the study of gas warfare is being actively pursued in Soviet Russia. Numerous factories have been set up and are in course of erection. There is not the slightest doubt that much greater preparations are being made in Russia than anywhere else in the world.

Notes in Brief.

On March 14th the Sale of Food and Drugs Bill passed through the report stage and was read the third time in the Commons, and on March 15th was read the first time in the Lords.

Asked why imports of phenacetin, hydroquinone, and other chemical substances had not been exempted for liability to duty, Sir Burton Chadwick said that an Order had been made on March 7th exempting certain of these substances from duty.

The United States has been invited to define its attitude towards the Opium Convention adopted at Geneva in 1925.

In 1926 factory inspectors visited 101,962 factories out of 129,695 in England and Wales.

The number of dairy farms in England and Wales is estimated at over 200,000. Of these, 220 were visited in 1926 by inspectors of the Ministry of Health.

From September 1st, 1925, to December 31st, 1926, 23,369 cows were slaughtered by local authorities under the Tuberculosis Order, 1925.

Medical News.

SIR THOMAS HORDER, Bt., M.D., will preside at the "Wiltshiremen in London" annual dinner at the Connaught Rooms on April 2nd next.

AT a sessional meeting of the Royal Sanitary Institute on Friday, March 25th, in the Town Hall, Leeds, a discussion on cancer will be opened by Sir Berkeley Moynihan, Bt., P.R.C.S., followed by Professor R. D. Passey, M.D., Director of Cancer Research, University of Leeds. The chair will be taken at 5 p.m. by Dr. G. F. Buchan.

DR. R. TRAVERS SMITH will lecture for the Fellowship of Medicine on emergencies in neurological practice on March 24th, at 5 p.m., at the Medical Society, 11, Chandos Street, W. On March 22nd Mr. N. C. Lake will give a clinical demonstration in surgery at Charing Cross Hospital at 2 p.m., and ophthalmological demonstrations will be given at the Central London Ophthalmic Hospital at 4 p.m. on March 23rd by Mr. Levy, on the 24th by Miss Mann, and on the 25th by Mr. Williamson-Noble. The lecture and these demonstrations are free to medical practitioners. An all-day comprehensive course in orthopaedics is in progress at the Royal National Orthopaedic Hospital, and will continue until April 2nd. A two weeks' course in the late afternoons will begin on March 21st at the London Temperance Hospital for the benefit primarily of general practitioners. From March 28th to April 9th the Queen's Hospital will hold a special all-day course in diseases of children. At the Royal Eye Hospital there will be a series of afternoon demonstrations on the diagnosis and treatment of diseases of the eye from March 28th to April 8th. The Fellowship arranges for practical courses in anaesthetics and obstetrics and also for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE new Health Committee of the League of Nations, whose tenure of office began on January 1st last and will run for three years, has held its first meeting. Dr. Madsen of Copenhagen was elected president, and Dr. Cumpston of Melbourne, Dr. Alice Hamilton of Harvard, and Professor Winslow of Yale were appointed expert assessors. After reviewing the work of its various commissions the committee decided to appoint a committee of experts on the relation of health insurance to public health services, and to proceed with the inquiry regarding infant welfare. It approved the

steps taken to collect information regarding the influenza epidemic. It expressed satisfaction at the progress of the Singapore bureau, and welcomed the proposal to establish a subcentre at Melbourne. It accepted a suggestion to undertake research into the subject of plague prevention. The courses on malaria in London, Hamburg, and Paris are to be held again this year, with field work in Italy, Spain, and Jugo-Slavia.

AT the last meeting of the Central Midwives Board for England and Wales, with Sir Francis Champneys in the chair, an intimation was received from the Midwives Institute that Dr. Fairbairn, Miss A. A. I. Pollard, and Miss M. E. Pearson had been reappointed as its representatives on the Board. It was resolved to reply to the county medical officer of health for Durham that in the opinion of the Board a midwife, when she had been in contact with an infectious case, should notify the local supervising authority, undergo disinfection in the manner prescribed by the local supervising authority, and await the permission of the local supervising authority before attending other maternity patients.

HEALTH Week will be observed from October 2nd to 8th on the same lines as in previous years. During 1926 meetings and exhibitions were arranged in connexion with Health Week by over eighty local authorities, several county councils organizing celebrations in numerous centres. Health Week was also observed in India, South Africa, Australia, New Zealand, Ceylon, and the West Indies.

AN appeal for volunteers to join the blood transfusion service, organized by the British Red Cross Society, the British Hospitals Association, and the Rover Scouts, has been issued. The total number of volunteers at present on the list is about 350, but during 1926 the number of calls made and answered was 737, and as the number of appeals is increasing (there have been 122 already this year) the committee fears that it will soon be unable to meet the demands. The appeal, which is signed by Sir Arthur Stanley for the British Red Cross Society, by Lord Knutsford for the British Hospitals Association, and by C. Lisle Watson for the Rover Scouts, asks employers to permit volunteers in their service to act in emergency cases during business hours. At present only fifty volunteers are available during the daytime, and most of them have already acted once this year. The committee will send a speaker to institutions interested, and individual inquirers may obtain particulars from the Honorary Secretary, 210, Peckham Rye, S.E.22. (Telephone, night and day, New Cross 1606.)

THERE has been a further substantial decline in the number of deaths recorded from influenza throughout the country. The total number of deaths from this cause in the great towns of England and Wales during the week ended March 12th was 572 compared with 898 in the previous week and 1,023 in the week before that. In London 49 deaths were notified as compared with 69 and 81 in the two previous weeks; and in the outer ring of the metropolis 24 as against 44 and 67. Reports received by the Scottish Board of Health indicate that in most parts of Scotland the influenza epidemic was last week definitely on the wane. The decline was very noticeable in Dundee and Aberdeen. In Ayr and in Orkney, however, the disease is still spreading, and in Fife there is little sign of diminution as yet.

VACANCIES exist at present for medical officers in the Malayan Medical Service. Candidates should be British subjects of European parentage and not over 35 years of age. Further particulars are given in our advertisement pages.

WE are informed that the British College of Nurses, endowed by an anonymous donor with £100,000, has secured 39, Portland Place, London, W.1, as headquarters. The college and its governing body the council are composed entirely of registered nurses.

THE late Dr. Samuel Clarke Noble of Kendal, who died in December last, aged 89, has left estate of the gross value of £38,807, with net personalty £33,066. His bequests on the death of his wife included £3,000 to Balliol College, Oxford, for the foundation of an Eric Raymond Noble scholarship; £300 to the Medical Mission of the Church Missionary Society; £1,150 to Dr. Barnardo's Homes; £1,000 to the Kendal Grammar School for a scholarship at Oxford; £1,500 to the Westmorland County Hospital for the endowment of three beds in the children's ward. The ultimate residue of the property is to be divided in three equal parts between the Middlesex Hospital Medical School for the endowment of a Hugh Percy Noble research scholarship, preferably on cancer or diabetes, in remembrance of his son; to Balliol College for the foundation of an open classical scholarship; and to Dr. Barnardo's Homes for general purposes.

THE late Sir Isambard Owen has left estate valued at £9,234.

THE International Labour Office has published six more pamphlets (Nos. 58 to 63) dealing with miner's nystagmus; the treatment of industrial waste water; the postal, telegraphic, and telephonic services; trinitrotoluene, trinitroxylene, and trioxybenzene; tuberculosis and silicosis; and aluminium and amber. They may be obtained from the London correspondent of the International Labour Office, 12, Victoria Street, S.W.1.

A MINISTRY of Health has been established recently in Denmark.

THE eighth International Congress of Actuaries will be held in the Guildhall, London, from June 27th to 30th, under the honorary presidency of the Prince of Wales. Many delegates are expected from the Dominions, the United States, Europe, and other parts of the world, in view of the public and professional interest taken in the application of actuarial science to life insurance, and to old age and invalidity pensions.

THE fourth Spanish Congress of Pediatrics, which will be held at Valencia in May under the presidency of Dr. Juan Moret, dean of the medical faculty of Valencia, will consist of four sections devoted respectively to the hygiene and protection of infancy, medical diseases of children, surgery and orthopaedics, and pedagogy.

THE proceedings of the Twelfth Congress of Northern Countries, held at Stockholm from August 27th to 29th, have been recently published in a special supplement of *Acta Medica Scandinavica*, the communications appearing in English, French, or German.

DR. AUVRAY has been elected a member of the Académie de Médecine in place of the late Professor Le Dentu in the section of surgery and obstetrics. Professors Lejars and Sebileau of Paris have been elected corresponding foreign members of the Belgian Royal Academy of Medicine.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

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MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"ARCHIVES OF DISEASE IN CHILDHOOD."

DR. A. H. LOWTHER (St. Aubyn's, Burnham-on-Sea) is anxious to read the issues of the *Archives of Disease in Childhood* for August and October. These numbers are out of print, and Dr. Lowther would like to borrow or buy copies of them.

NERVOUS VOMITING.

DR. W. NUNAN (Bombay) writes in reply to "H. W. B." (JOURNAL, October 9th, 1926, p. 670) to recommend resort to suggestion.

MORBID SHYNESS IN A CHILD.

DR. R. MACD. LADELL (Birmingham) writes: "The letter of 'K. H. G.' in the JOURNAL of February 26th (p. 410), asking for suggestions as to the treatment of excessive shyness in a child of 8, is evidence of the lack of appreciation still shown by the majority of medical practitioners as to the possibilities of psychotherapy. Such a case should, as a matter of course, be taken for advice to a medical psychologist. Obviously to treat the cause of the shyness one must be aware of what is passing in the child's mind, and this can only be done by a process of psychological analysis." Dr. Ladell looks forward to the time when psychological clinics will be established in every large town.

CHRONIC URTICARIA.

"J. B. S." writes: "Pruritus" should again examine the urine of his patient for sugar, with a specimen of high specific gravity. Not a large amount of sugar, but a small amount—say, 3 per 1,000—for which the "Char test" is the best. Treat the patient as a potential diabetic, perhaps by heredity. Cut off starch and sugar and give liquor ammonii acetatis to act on the skin. Consider also occupation.

RURAL WATER SUPPLIES.

In reply to Dr. D. M. Macdonald (Arnside, Westmorland), it may be stated that the Public Health (Water) Act, 1878, which is still current, places upon a rural sanitary authority the duty of seeing that every inhabited house in its area has a convenient and adequate supply of wholesome water, and empowers the rural sanitary authority to call upon an owner to provide such supply where requisite. If the owner fails to comply after statutory notices given the rural sanitary authority may itself provide the supply and recover expenses. These provisions, however, do not relieve the rural sanitary authority of its general duty under Section 51 of the Public Health Act, 1875, to provide its district or part of it with a wholesome water supply where necessary on health grounds. A rural sanitary authority is a rural district council—that is to say, the council of a union or portion of a union which is not in an urban district. The medical officer and the sanitary inspector of a rural district are officers, but not members, of the rural sanitary authority. It may be noted that, under the Local Government Act, 1894, a parish council itself, as distinguished from a rural district council, has certain water duties. It may utilize a well, spring, or stream, and provide facilities for obtaining water therefrom, but its borrowing powers are limited under statute and are subject to the consent of the parish meeting.

INCOME TAX.

Motor Car Transactions.

"P. G. S. C." bought a car in 1924, but found it unsuitable for his neighbourhood and sold it in the same year at a loss of £95, purchasing a heavier car for £310. The assessor allowed the £95 as an expense of the year 1924, but refuses the 20 per cent. depreciation allowance for 1926–27 unless the former allowance is cancelled.

*** If we have gathered correctly the practice of the authorities on this point, the action of the assessor in question would not be supported by headquarters, seeing that there was no depreciation allowance in force until 1925–26. We suggest that our correspondent might point out that fact to the assessor, and if he still declines to make both allowances—which are obviously equitable—then that the full facts should be placed by letter before the Secretary, Inland Revenue, Somerset House, London.

Obsolescence Allowance for Car.

"A. B. C."—A touring car four-seater was bought in 1921 for £440 and sold in 1927 for £25. Depreciation (£41) was allowed for 1925–26 and £40 for 1926–27. A new car was bought from the same makers in 1927 for £265. What amount can be deducted for obsolescence?

*** The amount is the cost of a touring four-seater of the same make in 1927 less (£25+£41+£40=) £106. That amount should be regarded as a professional expense of the year 1927.

LETTERS, NOTES, ETC.

ETIOLOGY OF CANCER.

DR. A. T. BRAND (Driffield), referring to the letter by Dr. W. H. Fearis on Spengler's bacteriological theory of cancer (JOURNAL, February 12th, p. 305), protests against the term "theory" being used in connexion with the etiology of cancer, and asserts that the bacterial origin of this condition is a fact which was established by logical deduction long before it was proved by experiment and demonstration. He argues that the distribution of cancer through the entire vertebrate kingdom postulates a microbic origin, since a microbe can be the only possible universal agent, and he considers that the investigations of Dr. T. J. Glover (see *Epitome*, January 29th, para. 127) have defined this pleomorphic organism conclusively. He adds that Dr. Glover's work has been confirmed by Drs. Julian Loudon and J. M. McCormack of Toronto and Dr. M. J. Scott of Montana, while Dr. J. Young of Edinburgh has independently isolated a pleomorphic organism from cancerous growths, and Dr. Gye of London has discovered a filter-passing organism from the same. Dr. Brand concludes that attempts to produce malignant disease by mechanical irritation are now obsolete and impossible, and that attention should be paid rather to the cancerous tissues themselves and to the cause of the natural or acquired immunity from this disease possessed by many people.

LABOUR AND THE PUERPERIUM COMPLICATED BY PNEUMONIA.

DR. L. MATHER (Lancaster) writes to record a case of severe complications during pregnancy and the puerperium with a satisfactory outcome. A woman, aged 32, the mother of three children, developed pleurisy and pneumonia in the later weeks of pregnancy. Labour started spontaneously and terminated naturally with the birth of a healthy male child, weighing 5 lb. 12 oz. For several days the woman was very ill, with extensive consolidation of the bases of both lungs, and, at the height of her illness, acute cholangitis supervened, with deep jaundice. The temperature fell to subnormal twenty-four hours later, resolution quickly followed in the consolidated lungs, and the jaundice gradually disappeared. The patient's convalescence was rapid and uninterrupted, and one month after her confinement she was apparently little the worse for her ordeal. The child also progressed favourably.

VOLUNTARY PULSE CONTROL.

DR. THOMAS LINDSAY (London, S.W.) refers to the statement that voluntary and conscious control of the radial pulse, though rare, is not unknown (*Epitome*, February 26th, 1927, para. 216), and calls attention to his description of aortic systolic murmurs (JOURNAL, May 13th, 1922, p. 759), when he wrote: "Many persons, by contracting their muscles, can obliterate the radial pulse." He adds that he can do this easily himself, and that his wife, while nursing during the war, frequently detected this ability in military patients.

LIFE ASSURANCE AND TUBERCULOSIS.

DR. ROBERT CARSWELL (Wandsworth, S.W.18) has sent us a letter suggesting that holders of a negative tuberculin test certificate should be accorded specially favourable terms for sickness and life assurance. "A negative test certificate, by which," Dr. Carswell continues, "I mean negative in the original sense of Koch, would at least indicate freedom from the risks of endogenous tuberculosis. Not only would this be an economically sound proposition from the insurance point of view, but the pressure of the insurance world in this direction would react favourably on the elimination of tuberculosis by promoting on the part of individuals a desire to belong to the 'tuberculosis-free herd.'"

*** We referred this suggestion to Mr. Ferris-Scott, F.C.A., who is Secretary of the Medical Insurance Agency, as well as Financial Secretary and Business Manager of the British Medical Association. He writes:

"I have no knowledge as to the practical value of the suggestion Dr. Carswell makes, but there has been a movement for some considerable time towards the establishment of a practice by which every person holding a life assurance policy should submit to a medical examination every year. Attempts of this nature have been made with varying success in America and at least one, tentatively, in England. The advantage to the assured person should be fairly obvious; the advantage to the assurance company is the possibility that illness discovered by this thorough examination whilst in its early stages might be arrested and the claims experience of the company concerned thereby benefited. In practice, however, it has not been proved that the cost of paying adequately for these medical examinations would be recouped, nor is it certain that the average person would be willing to submit to a periodical medical examination at the behest of the assurance company. I should not care to say whether Dr. Carswell's suggestion would be an economical proposition, and I think that he is optimistic in so regarding it until he has made some suggestion as to the extent of the specially favourable terms to be granted. It might be economically sound if the specially favourable terms are 1 or 5 per cent. and the fee for the certificate only a few shillings, but such a fee would not be remunerative to the medical examiner. The proposition would not be economically sound if the specially favourable terms were 25 or 50 per cent. and the fee £3 3s.

"There is a class of life assurance which starts at an early age. I believe it is arguable, but I think an assurance company would accept the proposition, that a child of 12 or 15 might receive a negative certificate and develop tuberculosis at some time between 25 and 35. If I am correct in supposing that a person might receive a negative certificate at one period of his life, either before or after an attack, then it seems obvious that the assurance policy would have to be determinable or could be altered at the option of the assurance company, and the security of the assured's position would be severely damaged and confidence in life assurance shaken."

CORRECTION.

THE price of Daukes's *Barrier Charts for Health Officers*, which was reviewed in the JOURNAL of March 5th (p. 432), is 3s. 6d.—not 2s. 6d., as stated in the footnote to the review.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 95.

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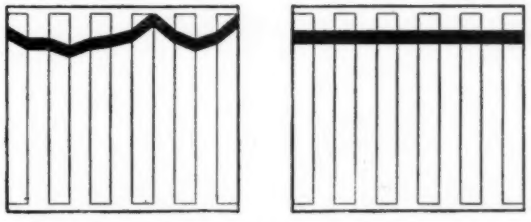

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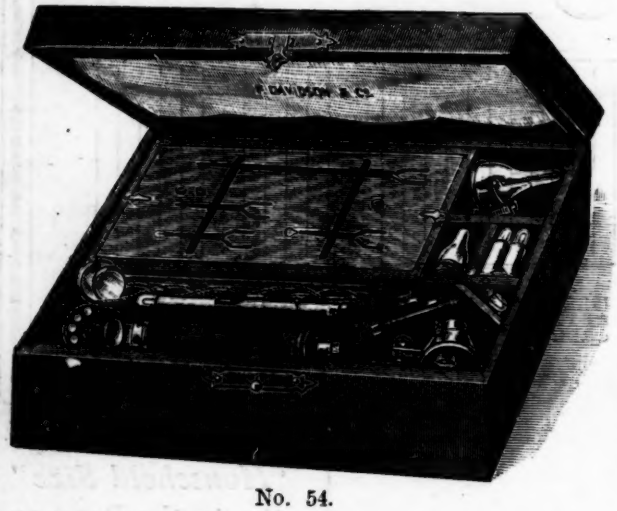

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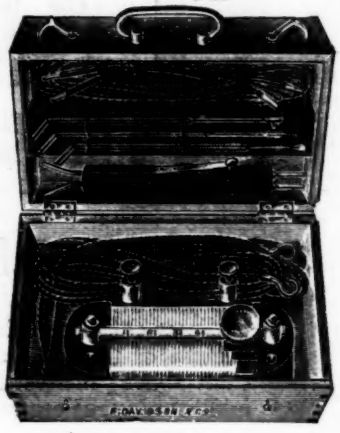

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